

### **Request for Intervenor Funds**

Instructions: Provide all applicable information by filling in the text boxes as indicated. If necessary, attach additional information in a separate document.

This request is to be submitted either electronically (preferred) or by regular mail.

To submit this request electronically, save your changes and attach it to an e-mail sent to:  
[secretary@dps.ny.gov](mailto:secretary@dps.ny.gov)

To submit this request by regular mail, print it and mail it to:

Secretary,  
NYS Board on Electric Generation  
Siting and the Environment  
3 Empire State Plaza  
Albany, NY 12223

Copies must also be submitted to the Presiding Examiner and other parties to the proceeding.

#### **TO THE SECRETARY:**

I hereby provide a request for intervenor funds in the following Article 10 case before the NYS Board on Electric Generation Siting and the Environment:

Case Number: 12-F0410

Title of Case: Cape Vincent Wind Farm, LLC

Name of Party: Jefferson County Farm Bureau

Contact Person: Roger E. Eastman, President, and Karen L. Stumpf, designated representative, Jefferson County Farm Bureau

Firm Name:

Contact Address: P.O. Box 125, 4627 State Route 289, Ellisburg, NY 13636-0125

Contact Telephone Number: 315-486-9324 (Roger E. Eastman) and 315-654-4839 (Karen L. Stumpf)

Contact E-mail Address: stumpf928@gmail.com

Amount of Funds Requested: \$17,000

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

The basis of eligibility for intervenor funds is as follows: (Check one)

- Eligible Municipal Party** [County, city, town or village located in New York State that may be affected by the proposed major electric generating facility]
- Eligible Individual Local Party** [Person residing in a community who may be individually affected by the proposed major electric generating facility]
- Eligible Group Local Party** : Jefferson County Farm Bureau

1(a) Provide a statement of the number of persons the requesting party represents:

The Jefferson County Farm Bureau has 440 active members

1(b) Provide a statement of the nature of the interests the requesting party represents:

The Jefferson County Farm Bureau, the oldest agricultural organization in the State, supports the development of agriculture, including efficient production, better marketing, fair legislation, and a safe food supply and work environment.

In this particular case, the Jefferson County Farm Bureau represents the well-being of its members, their families, and the larger society of which they are a part. Their well-being is affected in large measure by their livelihoods and their health.

2(a) Provide a statement of the efforts that have been made to obtain funds from other sources:

Because no other source of funds is known, no efforts have been made to obtain funds from other sources.

2(b) Provide a statement of the availability of funds from the resources of the requesting party:

The Jefferson County Farm Bureau is supported by modest member dues and thus has a very small budget relative to its activities.

2(c) Provide a statement of the availability of funds from the resources of sources other than the requesting party:

No other source of funds is known.

3(a) Indicate the type of funds being sought: (Check one)

- Pre-Application Stage Funds** [Generally available upon the filing by the Project Applicant of a Preliminary Scoping
- Application Stage Funds** [Generally available upon the filing by the Project Applicant of an Article 10 Application]

3(b) State the amount of funds being sought:

\$17,000

4(a) If expert witnesses, consultants, attorneys, or others are to be employed, provide to the extent possible, the name and qualifications of each person to be employed:

**Daniel L. Shawhan**

Shawhan has 15 years of experience focusing on the economic, environmental, and health effects of power generation facilities and policies. He has particular expertise in methods of estimating these effects.

**EDUCATION**

- Ph.D. Applied Economics and Management, Cornell University, August 2008. Fields: Environmental and resource economics, electricity markets, experimental economics, behavioral economics.
- B.A. Economics, with honors, Grinnell College, May 1995.

**CURRENT PROFESSIONAL POSITIONS**

- Assistant professor, Department of Economics, Rensselaer Polytechnic Institute
- Adjunct assistant professor, Charles H. Dyson School of Applied Economics and Management, Cornell University
- Adjunct researcher, Power Systems Engineering Research Center
- Power market structures subthrust leader, Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT), a National Science Foundation Engineering Research Center co-funded by NSF and US Department of Energy
- Adjunct researcher, Power Systems Engineering Research Center, a National Science Foundation Industry-University Cooperative Research Center
- Member, Environmental Advisory Committee of New York Independent System Operator.
- Member, Engineering and Economics of Electricity Research Group.

**SELECTED PAST PROFESSIONAL POSITIONS**

- Consultant to New York Independent System Operator hired to determine whether the carbon dioxide cap and trade program in ten northeastern states is increasing carbon dioxide emissions in neighboring, non-participating states, 2010-2011
- Interim graduate program director, Department of Economics, Rensselaer Polytechnic Institute, 2009-2010
- Instructor, Department of Applied Economics and Management, Cornell University, 2007-2008.
- Energy program coordinator, The Maryland Public Interest Research Group and the MaryPIRG Foundation, September 1999-August 2002
- Research associate, Tellus Institute, June 1998-September 1999. Hired as a consultant by the states of Arizona, Colorado, Delaware, Maine, Nevada, and Pennsylvania to help them design their restructured electricity markets.
- Research associate, US renewable energy industry associations (including American Wind Energy Association, US Export Council for Renewable Energy, and Geothermal Energy Association), February 1996-June 1998
- Researcher, The Socio-Environmental Development Foundation (Conservation International partner), Ecuador, June-August 1994
- Intern, Overseas Private Investment Corporation (OPIC), June-August 1993. OPIC is US government agency that assists with US private investment and sales outside of the US. Helped conceptualize and design OPIC's first environment-focused investment and trade mission.

For more information, see attached curriculum vitae.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

4(b) If expert witnesses, consultants, attorneys, or others are to be employed and it is not possible to provide the name of each person to be employed, provide for each person that cannot be named a statement of the necessary professional qualifications for the person:

5 Provide, if known, the name of any other interested person or entity who may, or is intending to, employ any such expert witnesses, consultants, attorneys, or others:

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

6(a) For all expert witnesses, consultants, attorneys, or others to be employed, provide a detailed statement of the services to be provided:

- 1) *Detailed critique of Preliminary Scoping Statement and summary of findings from the scientific research literature that bear on the content that should be included and methods that should be used in the Project Application.*

In order to assist the Farm Bureau of Jefferson County in offering input in the process of deliberating on the proposed project, the consultant will provide an extensive critique of the Preliminary Scoping Statement (PSS) from the perspective of an electricity policy researcher and expert who has been focusing on the health, environmental, and pocketbook impacts of electricity generation facilities and policies for fifteen years. The critique will comment on the methods proposed in the PSS, point out important omissions from the PSS, suggest methods of addressing those omissions, and summarize relevant findings from the research literature that may help in decisions about what impacts to include in the Project Application and what methods to use to estimate them.

Preparation of this critique will involve a close reading of each section of the Preliminary Scoping Statement, review of relevant economic and other scientific research literature, formulation of critique points, and writing of explanations of the research findings that bear on each issue addressed in the critique points. The consultant is familiar with a considerable amount of relevant literature, so can review it and draw from it in a time-efficient manner.

After the consultant has drafted the report, the Jefferson County Farm Bureau will review it and suggest additions and revisions that would help to make the report more useful in the process of considering the proposed wind farm. The consultant will then expand and revise the report in light of this input.

- 2) *Helping representatives of the Farm Bureau of Jefferson County prepare more fully for constructive, research-based participation in the process of setting the scope and methods of the Project Application.*

This help may take the form of telephone conversations, meetings (by phone or Skype or in person), correspondence by electronic mail, and supplementary research, as needed.

- 3) *Discussion with the Project Applicant and/or other parties about the scope of the Project Application and the methods to be used in it, if necessary.*
- 4) *Review of proposed stipulations or other documents and discussion of them with representatives of the Farm Bureau of Jefferson County, if necessary.*

6(b) For all expert witnesses, consultants, attorneys, or others to be employed, provide a detailed basis for the fees requested, including hourly fee, wage rate, and expenses:

- Hourly fee for consultant Shawhan: \$200
- Hourly fee for research assistant and/or editor to work with Shawhan: \$40 to \$60, depending on level of experience
- Any driving will be billed at the current US government rate, which is \$0.565 per mile at the time of this writing.
- Any other expenses will be billed at cost. Such expenses are expected to be minimal.
- Shawhan will hire a research assistant, editor, or both if they can perform aspects of the project more cost-effectively than Shawhan can.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 6(c) For all expert witnesses, consultants, attorneys, or others to be employed during the Pre-Application Stage, provide a detailed statement specifying how such services and expenses will make an effective contribution to review of the Preliminary Scoping Statement and the development of an adequate scope of appropriate studies for the application to be submitted and thereby provide early and effective public involvement:

In addition to assisting the Jefferson County Farm Bureau, there are several other characteristics of this critique that we believe are likely to make it a valuable and distinctive contribution to the comments at this stage of the project's consideration:

- It will address the impacts of the project on all New Yorkers, both those who live within sight of the proposed project and those elsewhere. This is important because some of the project's major impacts are its effects on regional air pollution and health, greenhouse gas emissions, water use, and energy costs. These are topics on which the consultant has substantial expertise.
- In order to make this critique as useful as possible, the consultant will include findings from the research literature that can help to inform the scoping of the Project Application and the public consideration of the proposed project.
- The comments that the consultant will prepare will not focus solely on a particular type of impacts, or impacts in one community, or positive impacts, or negative impacts, but rather on all impacts about which the consultant can offer helpful input. These include economic, pollution, health, and water use impacts.
- The comments will not limit themselves to impacts already discussed in the Preliminary Scoping Statement, but will also suggest any additional impacts that are likely to be important and are not addressed in the Preliminary Scoping Statement, and will provide a summary of findings from the scientific literature to assist in considering whether and how to add assessment of such impacts to the Project Application.

The Jefferson County Farm Bureau is a citizens' groups with a strong interest in the quality of life of New Yorkers in the Cape Vincent area and statewide. We wish to be as helpful as we can in the process of considering the proposed wind farm, to be as informed as we can as participants in that process, and to help others be well informed. The proposed critique and report by Dr. Shawhan will help us achieve these ends.

The Jefferson County Farm Bureau will make the critique and report publicly available in its entirety.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 6(d) For all expert witnesses, consultants, attorneys, or others to be employed during the Application Stage, provide a detailed statement specifying how such services and expenses will contribute to the compilation of a complete record as to the appropriateness of the site and facility and will facilitate broad participation in the proceeding.



**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

7(d) For any study to be performed, provide a description of the timing for completion of the study and a statement of the rationale supporting the timing proposed:

8(a) For any study to be performed, a statement as to the result of any effort made to encourage the Project Applicant to perform the proposed studies or evaluations and the reason it is believed that an independent study is necessary:

9 For all expert witnesses, consultants, attorneys, or others to be employed, provide a copy of any contract or agreement or proposed contract or agreement with each such expert witness, consultant, attorney, or other person.

The contract is attached. The Farm Bureau and the Consultant intend to sign it before May 21, 2013.

**IF NECESSARY, ATTACH ADDITIONAL INFORMATION IN A SEPARATE DOCUMENT.**

- 10 Provide a statement of any additional justification for the funding request not already addressed above:

## Daniel L. Shawhan

Assistant professor, July 2008 - present  
Department of Economics  
Sage Lab room 3204  
Rensselaer Polytechnic Institute  
110 8<sup>th</sup> St  
Troy NY 12180  
Tel: 518-331-6186 (mobile)  
Fax: 518-276-2235  
E-mail: shawhd@[Renss Poly Inst initials].edu

Adjunct assistant professor, January 2010 - present  
Charles H. Dyson School of Applied Economics and Management  
Cornell University

Adjunct researcher, March 2011 - present  
Power Systems Engineering Research Center  
[www.pserc.org](http://www.pserc.org)

### EDUCATION

Ph.D. Applied Economics and Management, Cornell University, August 2008.  
Dissertation title: "Three Essays Addressing New Challenges for Energy Policy."  
Fields: Environmental and resource economics, electricity markets, experimental economics, behavioral economics.

B.A. Economics, with honors, Grinnell College, May 1995.

### PEER-REVIEWED PUBLICATIONS

J. Taber, D. Shawhan, R. Zimmerman, C. Marquet, M. Zang, W. Schulze, R. Schuler, S. Whitley, "Mapping Energy Futures Using The SuperOPF Planning Tool: An Integrated Engineering, Economic and Environmental Model." *Proceedings of the 46th Annual Hawaii International Conference on System Sciences*, Computer Society Press, January 2013, 5 pages.

"An Experimental Test of Automatic Mitigation of Wholesale Electricity Prices," Daniel L. Shawhan, Kent D. Messer, William D. Schulze, and Richard E. Schuler. *International Journal of Industrial Organization* 29 (2011) 46-53.

"Is Time Inconsistency Primarily a Male Problem?," Jeffrey Prince and Daniel Shawhan. *Applied Economics Letters*, Volume 18 Issue 6, April 2011, pp. 501-504. Also available at [www.ssrn.com](http://www.ssrn.com) as "A Gender Difference in Time Consistency."

### WORK IN EDITED VOLUMES

“Tradable Permit Markets,” Dallas Burtraw and Daniel Shawhan. In Todd Cherry, Stephan Kroll, and Jason Shogren, eds, *Experimental Methods, Environmental Economics*, UK: Routledge, 2007.

## **SELECTED INDUSTRY PUBLICATIONS AND WHITE PAPERS**

“Mapping Energy Futures: The SuperOPF Planning Tool,” Andrew Kindle, Charles Marquet, Richard Schuler, William Schulze, Daniel Shawhan, Di Shi, Kale Smith, John Taber, Daniel Tylavsky, Jubo Yan, Max Zhang, and Ray Zimmerman. A white paper for the US Department of Energy, February 2012.

“An Empirical Test for Inter-State Carbon-Dioxide Emissions Leakage Resulting from the Regional Greenhouse Gas Initiative,” Andrew Kindle, Daniel Shawhan, and Michael Swider. New York Independent System Operator, April 2011. Covered by two industry news services: SNL (October 13, 2011) and Power News (October 19, 2011).

“Market Power in Electricity Markets, and Tellus Institute’s Method of Modeling Horizontal Market Power in Generation Markets,” Daniel Shawhan. Tellus Institute, June 1999.

“La geotermia: energía limpia y confiable para las américas,” Daniel Shawhan. Geothermal Energy Association, May 1998. This is a publication about geothermal energy, for distribution throughout the Spanish-speaking parts of the Americas.

“Renewable Energy,” Daniel Shawhan. In US Energy Association’s *U.S. Energy 1997*.

## **WORKING PAPERS**

“Was There an Incentive for Price Competition in the Initial Test of an Electricity Market with Reserves Priced at Opportunity Cost?,” Daniel Shawhan, working paper for Engineering and Economics of Electricity Research Group, August 2003.

## **DATASETS**

D. Shawhan, C. Marquet, J. Yan, W. Schulze, "Augmented Energy Information Administration Generation Unit Dataset." This database of the 16,000 grid-connected, utility-scale electricity generation units in the contiguous US contains the information in the Energy Information Administration generator dataset. To this, it adds the emission rates (of sulfur dioxide, nitrogen oxides, and carbon dioxide), heat rate (fuel per kWh), EPA unit name, emission control information, and annual usage information for each generator.  
[http://e3rg.pserc.cornell.edu/augmented\\_eia\\_gen\\_data](http://e3rg.pserc.cornell.edu/augmented_eia_gen_data).

## **CONFERENCE PROCEEDINGS**

D. Shi, D. Shawhan, N. Li, D. J. Tylavsky, J. Taber, R. Zimmerman, "Optimal Generation Investment Planning: Part 1: Network Equivalents," North American Power Symposium 2012 (electronic journal), Champaign, Illinois, Sep. 2012, 6 pages.

N. Li, D. Shi, D. Shawhan, D. J. Tylavsky, J. Taber, R. Zimmerman, "Optimal Generation Investment Planning: Part 2: Application to the ERCOT System," North American Power Symposium 2012 (electronic journal), Champaign, Illinois, Sep. 2012, 6 pages.

## **SEMINAR, CONFERENCE, AND MEETING PRESENTATIONS**

"An Advanced, Open-Source Model for Predicting the Effects of Power-Sector Policies, Investments, and Prices." US Association of Energy Economists Conference, Austin, TX, November 4-7, 2012.

"Environmental Policies on the Grid: Findings from an Integrated Economic, Engineering, and Environmental Model." Plenary presentation at national symposium entitled "Power Generation and the Environment: Choices and Economic Trade-Offs," hosted in Jackson Hole by the University of Wyoming, October 1-2, 2012.

"Mapping Energy Futures: The SuperOPF Planning Tool." Annual US Department of Energy Center for Electric Reliability Technology Solutions Reliability and Markets conference. At Cornell University, August 7-8, 2012.

"Toward a Lower-Cost, Less-Polluting Power Grid: A Preliminary 'Super OPF' Power System Planning Tool and a Few Applications." Department of Electrical Engineering weekly seminar, State University of New York at Buffalo, April 20, 2012.

"Simulation of Grids and Storage Devices on Them" at RPI Energy Storage Workshop, February 22, 2012.

Association of Public Policy Analysis and Management Fall Conference, 2010 (one paper).  
Association of Public Policy Analysis and Management Fall Conference, 2009 (two papers).  
New York Independent System Operator Environmental Advisory Committee meeting, October 2009.

Association of Environmental and Resource Economists Summer Workshop, 2009.

Rensselaer Ecological Economics Seminar, 2009.

Rensselaer Economics Seminar, 2008.

Association of Environmental and Resource Economists session at Agricultural and Applied Economics Association annual meeting, 2008.

Power Systems Engineering Research Center Industry Advisory Board Meeting, May 2008.

Economic Science Association North American annual meeting, 2007.

## **GRANTS AND CONTRACTS**

Principal investigator, RPI portion of "CERTS Power System Research: Mapping Energy Futures: The SuperOPF Planning Tool." From Lawrence Berkeley National Laboratory. 2012.

Principal investigator, RPI subcontract of “Eliminating Transmission Line Losses Through Replacement of Shield Wires the Use of Arresters.” From New York State Energy Research and Development Authority to Ceralink Inc. 2012-13.

Principal investigator, “SuperOPF Planning Tool Development and Application to New York.” From New York Independent System Operator. 2012-13.

Principal investigator, “The Impact of New Energy and Environmental Regulations on the Future Reliability and Costs of Electric Power” contract to Rensselaer Polytechnic Institute from US Department of Energy’s Center for Electric Reliability Technology Solutions via Lawrence Berkeley National Laboratory. 2011.

Power Market Structures subthrust leader and co-author, “Center for Ultra-wide-area Resilient Electric Energy Transmission Networks” (CURENT), National Science Foundation Engineering Research Center co-funded by NSF and US Department of Energy. Anticipated duration: 2011 – 2021 or beyond.

Co-founder and co-author, “New York Energy Policy Institute.” Announced December 2009. An initiative of New York’s governor, announced in his 2009 State of the State address. Seed funding from New York Energy Research and Development Authority. The three core institutions of this new Institute are Stony Brook University, Rensselaer, and Syracuse University.

Co-author and subtask leader, “Scalable and flat controls for reliable power grid operation with high renewable penetration.” From the Global Climate and Energy Program at Stanford University, which is funded by ExxonMobil, General Electric, Schlumberger, and Toyota. The faculty investigators at Rensselaer are Joe Chow, Daniel Shawhan, and Jian Sun. The larger team is led by Kevin Tomsovic at the University of Tennessee at Knoxville, and it also includes researchers at Northeastern University and the University of Illinois at Urbana-Champaign. 2010-2012.

Co-leader, “Integrating Operational Reliability And Planning: The Effects Of Regulatory Constraints On Reliability and the Impact of Environmental Regulation,” Consortium for Electric Reliability Technology Solutions grant to a team including William D. Schulze (lead), Judith Cardell, Douglas Mitarotonda, Timothy Mount, Richard Schuler, Robert Thomas, Daniel Shawhan, K. Max Zhang, and Ray Zimmerman. I co-led this project with Schulze. 2008-2010.

Co-leader and co-author, “Budget Supplement for PSERC project M-20, ‘Facilitating Environmental Initiatives While Maintaining Efficient Markets and Electric System Reliability,’” New York Independent System Operator contract to a team consisting of Douglas Mitarotonda, William Schulze, and Daniel Shawhan. Fall 2008-Fall 2009. Proposal authors: Shawhan and Schulze.

Principal investigator and author, “Pass-through of Sulfur-dioxide and Nitrogen-oxide Emission Permit Prices to Electricity Prices in the Mid-Atlantic United States,” Resources for the Future contract providing one semester of support, Fall 2006.

Co-author, “Assessing Gender Differences in Time Consistency,” Institute for Social Sciences, Cornell University. Grant awarded April 2006. Wrote with Jeffrey Prince.

Co-author, “An Experimental Economics Examination of Behavioral Anomalies, Group Decision Making, and the Provision of Public Goods,” National Science Foundation award SES-0418450, August 2004-July 2006. Principal investigator: William Schulze. I wrote the section on “Private and Public Discount Rates,” one of five sections on the proposed activities.

Principal investigator and author, “Sustainable Energy Solutions for Maryland,” grant by The Energy Foundation to the MaryPIRG Foundation, awarded December 2001.

Principal investigator and author, “General Support,” grant by The Beldon Fund to the MaryPIRG Foundation, awarded December 2001.

Principal investigator and author, “Exploring a Clean Energy Future for Maryland in a Deregulated Electricity Market,” grant by The Energy Foundation to the MaryPIRG Foundation, awarded March 2000.

Primary author of two successful proposals for state government consulting contracts on electricity market restructuring. Contributed to nine other proposals. Tellus Institute, 1998-1999.

## **COURSES TAUGHT**

Managerial Economics (similar to Intermediate Microeconomics), ECON 2010, Rensselaer, Spring 2013 (two sections), Fall 2012, Spring 2012 (two sections), Fall 2011, Spring 2011 (two sections), Fall 2010, Spring 2010.

Electricity Economics and Policy, ECON 6960/4960, graduate/undergraduate course, Rensselaer, Fall 2012, Fall 2010.

Advanced Environmental Economics, ECON 6230, Ph.D. core course, Rensselaer, Fall 2011, Fall 2009, Fall 2008.

Electricity Policy Readings Course, ECON 2940/4940/6940, Spring 2010.

Energy Economics and Policy, ECON 6961/4961, graduate/undergraduate course, Rensselaer, Spring 2009.

Environmental Economics, ECON 409/AEM 451, undergraduate course, Cornell University, Spring 2008 and Spring 2007.

Resource and Environmental Economics, AEM 651, master’s-level course, Cornell University, Spring 2007.

## **STUDENT ADVISING**

Advisor for Andrew Kindle (Ph.D.—fall 2010-present), Biao Mao (Ph.D.—fall 2012-present), Kedaar Raman (M.S./Ph.D. co-advisor —spring 2013-present), Zamiyad Dar (M.S./Ph.D. co-advisor—spring 2013-present), Yu-li Ko (Ph.D.—fall 2010-spring 2012), Ellen Roybal (Ph.D.—fall 2009-spring 2012), Veronica Wang (M.S.—spring 2009-summer 2010), Emily Schultz

(master's research—spring 2009), Robert Bryant (senior thesis—spring 2009), Frank Tobia (senior research—spring 2009), Anasha Cummings (Vasudha research project—spring 2009), Savaknou Khouy (undergraduate research program—fall 2009), Anna Josephson (junior independent study—spring 2010), Cristina Vigil (M.S. independent study—spring 2010), Damion Crichlow (M.S. independent study—spring 2010), Savaknou Khouy (M.S. independent study—spring 2010), and Saadia Safir (senior independent study—spring 2010).

Committee member for Scott Ghiocel (Ph.D. —2012-present), Yu Xia (M.S./Ph.D.—2012-present), Liliana Martinez (Ph.D. —2011-present), Sarah Parks (Ph.D.—completed 2012), Nathaniel Springer (Ph.D.—completed 2011), Xiaohua Wu (Ph.D.—2011-12), Sean Ferguson (Ph.D. —2010-2011), Nancy Sanhueza-Diaz (2010-2011), Sung Kim (Ph.D. completed 2010), Carlos Lopez Morales (Ph.D. completed 2010), and Aneel Salman (Ph.D.—completed 2010).

## **OTHER SERVICE TO RENSSELAER POLYTECHNIC INSTITUTE**

Graduate program director, Department of Economics, 2009-2010.

Interactive economics visiting instructor, Questar III New Visions Program for high school students, Rensselaer Polytechnic Institute, Spring 2011, Fall 2011, Spring 2013.

“Power System Economics and Policies” shortcourse as part of Rensselaer's CURENT Engineering Research Center summer course for high school students, summer 2012.

Humanities, Arts, Architecture, and Social Sciences fellowship review panel, 2012, 2013.

Institute junior faculty provost candidate review panel, 2012.

Economics Department graduate admissions committee, 2008-present.

Economics Department seminar committee, 2010 – 2011. Led by Greg DeAngelo.

School of Humanities, Arts, and Social Sciences junior faculty dean candidate review panel, 2010.

Humanities, Arts, Architecture, and Social Sciences fellowship review panel, 2010.

Energy and the Environment Research Thrust Strategic Planning Working Group, 2010.

Fulbright Fellowship review committee for Erin Lennox, 2010.

Economics faculty hiring committee, November 2009 – March 2010.

Keynote speaker at symposium on environmentalism, Doane Stuart School, Albany NY, January 2009.

Undergraduate student recruiting, 2008.

## **REFEREE**

*International Journal of Industrial Organization, International Journal of Energy Technology and Policy, European Transactions on Electrical Power, National Science Foundation, IEEE Transactions on Power Systems.*

## **MEMBER**

Environmental Advisory Council of New York Independent System Operator, May 2011 - present

American Economic Association

US Society for Energy Economics  
International Society for Energy Economics  
Association of Environmental and Resource Economists  
European Association of Environmental and Resource Economists  
International Society for Ecological Economics  
US Society for Ecological Economics

## **DIRECT POLICY INPUTS**

Official joint comments of Maryland Public Interest Research Group, Natural Resources Defense Council, Northeast Energy Efficiency Partnerships, American Council for an Energy Efficient Economy, Alliance to Save Energy, and Chesapeake Bay Foundation to the Maryland Public Service Commission on energy conservation and efficiency programs, June 30, October 18, and December 15, 2000. D. Shawhan, S. Coakley, S. Nadel, E. Osann, T. Pierno, B. Prindle.

Maryland renewable energy portfolio standard bill, 2000 and 2001. D. Shawhan with Maryland Department of Legislative Services. A modified version of this bill became law in 2004.

“The Potential Exercise of Horizontal Market Power in a Deregulated Colorado Electricity Market.” D. Shawhan and R. Rosen, June 1999. Presented by Colorado Office of Consumer Counsel to Colorado Electricity Advisory Panel.

Several sets of official comments on restructuring issues submitted by Arizona Residential Utility Consumer Office to Arizona Corporation Commission. D. Shawhan and R. Rosen, September 1998-April 1999.

## **PROFESSIONAL EXPERIENCE**

### **Rensselaer Polytechnic Institute, Troy, NY**

*Assistant professor of economics, July 2008-present*

*Courtesy faculty appointment in Lally School of Management and Technology, September 2010-present.*

*Graduate program director, Department of Economics, June 2009-June 2010*

### **Cornell University, Ithaca, NY**

*Adjunct assistant professor of Applied Economics and Management, effective January 1, 2010  
(in addition to position at Rensselaer)*

*Instructor, Spring 2008 and Spring 2007.*

*Teaching assistant, Spring 2005, Spring 2003, Fall 2002.*

### **Resources for the Future, Washington DC**

*Intern, May-August 2006*

- Researched effect of emission permit prices on wholesale electricity prices in the mid-Atlantic United States, with Dallas Burtraw and Karen Palmer.

**The Maryland Public Interest Research Group (MaryPIRG)**, Baltimore, Annapolis, and DC  
*Energy program coordinator, September 1999-August 2002*

- Worked with Maryland General Assembly, Public Service Commission, executive agencies, governor, congressional delegation, other non-governmental and industry organizations, and media.
- Co-led successful efforts to pass Maryland appliance and equipment efficiency mandatory standards (later emulated by seven other states and now in federal law), Maryland renewable energy portfolio standard, Maryland energy efficiency and renewable energy tax incentives (later emulated in several other states), Maryland “green buildings” tax incentive program (first in the nation to use LEED standards), and regulations for environmental labeling of electricity.
- Managed the MaryPIRG and MaryPIRG Foundation staff, August 2000-August 2002.

**Tellus Institute**, Boston, MA

*Research associate, June 1998-September 1999*

- Helped the official consumer advocate agencies of Arizona, Colorado, Pennsylvania, Maine, and Nevada as well as the Public Service Commission staff of Delaware to develop their input to electric restructuring policy-making processes.
- Drafted official comments of National Association of State Utility Consumer Advocates on Federal Energy Regulatory Commission’s Notice of Proposed Rulemaking on Regional Transmission Organizations.
- Addressed wide range of restructuring-related issues, with particular emphasis on stranded costs and benefits; market power; and shopping credits.
- Also dedicated significant attention to unbundling of services and rates; design of markets for generation and ancillary services; potential for retail electric choice to substantially increase overhead costs of service providers; divestiture and vertical de-integration; affiliate transaction rules; logical sequence and timetable of restructuring actions; effect of rate design on income distribution; securitization; negotiated rate freezes and reductions; treatment of must-run generation; slamming; regional transmission organizations; and environmental labeling and emissions tracking.

**US renewable energy industry associations** (including American Wind Energy Association, US Export Council for Renewable Energy, and Geothermal Energy Ass’n), Washington DC  
*Research associate, February 1996-June 1998*

- Researched and wrote about renewable energy for industry members, policymakers, and the public. Topics included technology status, externalities, resource distribution, applications, project examples, cost, typical financing arrangements, project development considerations, extent of utilization, and developments of interest to industry.

**The Socio-Environmental Development Foundation** (Conservation International partner), Ecuador

*Researcher, June-August 1994*

- Investigated and reported on feasibility, strategies, and impacts of commercializing sustainably extractable *Castilla* latex from biodiverse forest in Western Ecuador.

**Overseas Private Investment Corporation (OPIC), Washington, DC and Caracas**  
*Intern, June-August 1993*

- Researched investment outlook in selected sectors of four Latin American economies.
- Contributed to design of OPIC's first environmental investment mission.

## **LANGUAGES**

English (native)

Spanish (fully proficient)

Portuguese (reading and imperfect conversation and writing)

Nepali (rudimentary conversation)

## JEFFERSON COUNTY FARM BUREAU

### CONSULTING AGREEMENT

This Consulting Agreement (this "Agreement") is made as of \_\_\_\_\_, by and between the Jefferson County Farm Bureau (the "Organization"), and Daniel L. Shawhan ("Consultant").

1. **Consulting Relationship.** During the term of this Agreement, Consultant will provide consulting services to the Organization as described on Exhibit A hereto (the "Services"). Consultant represents that Consultant has the qualifications, the experience and the ability to properly perform the Services. Consultant shall use Consultant's best efforts to perform the Services such that the results are satisfactory to the Organization.

2. **Fees.** As consideration for the Services to be provided by Consultant and other obligations, the Organization shall pay to Consultant the amounts specified in Exhibit B hereto.

3. **Expenses.** The Organization shall reimburse Consultant for expenses reasonable and necessary for providing the Services provided under this Agreement. As a condition to receipt of reimbursement, Consultant shall be required to submit to the Organization reasonable evidence that the amount involved was both reasonable and necessary for providing the Services.

4. **Term and Termination.** Consultant shall serve as a consultant to the Organization for a period commencing on the date first written above and terminating on the earlier of (a) the date Consultant completes the provision of the Services to the Organization under this Agreement, or (b) the date Consultant shall have been paid the maximum amount of consulting fees as provided in Exhibit B hereto.

Notwithstanding the above, either party may terminate this Agreement at any time upon five business days' written notice. In the event of such termination, Consultant shall be paid for any portion of the Services that have been performed prior to the termination.

Should either party default in the performance of this Agreement or materially breach any of its obligations under this Agreement, the non-breaching party may terminate this Agreement immediately if the breaching party fails to cure the breach within fifteen business days after having received written notice by the non-breaching party of the breach or default.

5. **Independent Contractor.** Consultant's relationship with the Organization will be that of an independent contractor and not that of an employee.

6. **Method of Provision of Services.** Consultant shall be solely responsible for determining the method, details and means of performing the Services. With prior written approval from the Organization, the Consultant may employ or engage the services of such employees, subcontractors, or agents, as Consultant deems necessary to perform the Services (collectively, the "Assistants"). The Assistants are not and shall not be employees of the Organization, and Consultant shall be wholly responsible for the professional performance of the

Services by the Assistants. Consultant shall expressly advise the Assistants of the terms of this Agreement.

(a) **No Authority to Bind Organization.** Consultant acknowledges and agrees that Consultant and its Assistants have no authority to enter into contracts that bind the Organization or create obligations on the part of the Organization without the prior written authorization of the Organization.

(b) **Withholding; Indemnification.** Consultant shall have full responsibility for applicable withholding taxes for all compensation paid to Consultant or its Assistants under this Agreement, and for compliance with all applicable labor and employment requirements with respect to Consultant's self-employment, sole proprietorship or other form of business organization, and with respect to the Assistants, including state worker's compensation insurance coverage requirements and any U.S. immigration visa requirements. Consultant agrees to indemnify, defend and hold the Organization harmless from any liability for, or assessment of, any claims or penalties with respect to such withholding taxes, labor or employment requirements, including any liability for, or assessment of, withholding taxes imposed on the Organization by the relevant taxing authorities with respect to any compensation paid to Consultant or its Assistants.

7. **Supervision of Consultant's Services.** All of the services to be performed by Consultant, including but not limited to the Services, will be as agreed between Consultant and a representative ("Designated Representative") of the Organization designated by its president. Consultant will be required to report to the Designated Representative concerning the Services performed under this Agreement. The nature and frequency of these reports will be left to the discretion of the Designated Representative.

8. **Conflicts with this Agreement.** Consultant represents and warrants that neither Consultant nor any of the Assistants is under any pre-existing obligation in conflict or in any way inconsistent with the provisions of this Agreement. Consultant represents and warrants that Consultant's performance of all the terms of this Agreement will not breach any agreement to keep in confidence proprietary information acquired by Consultant in confidence or in trust prior to commencement of this Agreement. Consultant warrants that Consultant has the right to disclose and/or use all ideas, processes, techniques and other information, if any, which Consultant has gained from third parties, and which Consultant discloses to the Organization or uses in the course of performance of this Agreement, without liability to such third parties. Consultant represents and warrants that Consultant has not granted and will not grant any rights or licenses to any intellectual property or technology that would conflict with Consultant's obligations under this Agreement. Consultant will not knowingly infringe upon any copyright, patent, trade secret or other property right of any former client, employer or third party in the performance of the Services.

9. **Miscellaneous.**

(a) **Governing Law.** The validity, interpretation, construction and performance of this Agreement, and all acts and transactions pursuant hereto and the rights and

obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the state of New York, without giving effect to principles of conflicts of law.

(b) **Entire Agreement.** This Agreement sets forth the entire agreement and understanding of the parties relating to the subject matter herein and supersedes all prior or contemporaneous discussions, understandings and agreements, whether oral or written, between them relating to the subject matter hereof.

(c) **Amendments and Waivers.** No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, shall be effective unless in writing signed by the parties to this Agreement. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision as to that or any other instance.

(d) **Notices.** Any notice, demand or request required or permitted to be given under this Agreement shall be in writing and shall be deemed sufficient when delivered personally or by overnight courier or sent by email, or 48 hours after being deposited in the U.S. mail as certified or registered mail with postage prepaid, addressed to the party to be notified at such party's address as set forth on the signature page, as subsequently modified by written notice.

(e) **Severability.** If one or more provisions of this Agreement are held to be unenforceable under applicable law, the parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (i) such provision shall be excluded from this Agreement, (ii) the balance of the Agreement shall be interpreted as if such provision were so excluded and (iii) the balance of the Agreement shall be enforceable in accordance with its terms.

(f) **Construction.** This Agreement is the result of negotiations between and has been reviewed by each of the parties hereto and their respective counsel, if any; accordingly, this Agreement shall be deemed to be the product of all of the parties hereto, and no ambiguity shall be construed in favor of or against any one of the parties hereto.

(g) **Counterparts.** This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and all of which together shall constitute one and the same agreement.

*[Signature Page Follows]*

The parties have executed this Agreement as of the date first written above.

**THE ORGANIZATION:**

JEFFERSON COUNTY FARM BUREAU

By: \_\_\_\_\_  
(Signature)

Name: Roger A. Eastman  
Title: President

Address:  
P.O. Box 125  
4627 State Route 289  
Ellisburg, NY 13636-0125

**CONSULTANT:**

DANIEL L. SHAWHAN  
(PRINT NAME)

\_\_\_\_\_  
(Signature)

Address:  
RPI Sage Lab room 3402  
110 8th St  
Troy NY 12180  
Email: shawhd@rpi.edu

## **EXHIBIT A OF CONSULTING AGREEMENT**

### **DESCRIPTION OF CONSULTING SERVICES**

- 1) *Detailed critique of Preliminary Scoping Statement and summary of findings from the scientific research literature that bear on the content that should be included and methods that should be used in the Project Application.*

In order to assist the Farm Bureau of Jefferson County in offering input in the process of deliberating on the proposed project, the consultant will provide an extensive critique of the Preliminary Scoping Statement (PSS) from the perspective of an electricity policy researcher and expert who has been focusing on the health, environmental, and pocketbook impacts of electricity generation facilities and policies for fifteen years. The critique will comment on the methods proposed in the PSS, point out important omissions from the PSS, suggest methods of addressing those omissions, and summarize relevant findings from the research literature that may help in decisions about what impacts to include in the Project Application and what methods to use to estimate them.

Preparation of this critique will involve a close reading of each section of the Preliminary Scoping Statement, review of relevant economic and other scientific research literature, formulation of critique points, and writing of explanations of the research findings that bear on each issue addressed in the critique points. The consultant is familiar with a considerable amount of relevant literature, so can review it and draw from it in a time-efficient manner.

After the consultant has drafted the report, the Jefferson County Farm Bureau will review it and suggest additions and revisions that would help to make the report more useful in the process of considering the proposed wind farm. The consultant will then expand and revise the report in light of this input.

- 2) *Helping representatives of the Farm Bureau of Jefferson County prepare more fully for constructive, research-based participation in the process of setting the scope and methods of the Project Application.*

This help may take the form of telephone conversations, meetings (by phone or Skype or in person), correspondence by electronic mail, and supplementary research, as needed.

- 3) *Discussion with the Project Applicant and/or other parties about the scope of the Project Application and the methods to be used in it, if necessary.*
- 4) *Review of proposed stipulations or other documents and discussion of them with representatives of the Farm Bureau of Jefferson County, if necessary.*

**EXHIBIT B OF CONSULTING AGREEMENT**

**COMPENSATION**

For Services rendered by Consultant under this Agreement, the Organization shall pay Consultant at the rate of \$200 per hour, payable within 30 days of the later of the following events: (a) Consultant submits invoice for work completed or (b) Intervenor Funds become available to the Organization. Unless otherwise agreed upon in writing by Organization, Organization's maximum liability for all Services performed during the term of this Agreement shall not exceed \$17,000.

Consultant shall be paid \$\_\_\_\_\_ upon the execution of this Agreement and \$\_\_\_\_\_ upon completion of the Services specified on Exhibit A to this Agreement.

Other:

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