

## STEPHEN GROVER

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Ph.D., Economics, University of Wisconsin-Madison

M.S., Economics, University of Wisconsin-Madison

B.A., Economics, Pacific Lutheran University, Tacoma, WA

**Stephen Grover** is a Ph.D. economist who joined ECONorthwest in 2000 as a senior economist and project manager. He currently leads ECONorthwest's energy practice area. In addition to his work at ECONorthwest, Dr. Grover is an adjunct professor at Portland State University where he has taught courses on econometric simulation and forecasting and on energy modeling and economics. Dr. Grover specializes in discrete choice modeling and the development of consumer-behavior models using revealed- and stated-preference techniques. He has utilized these skills in projects covering a wide range of topics, including energy, litigation support, transportation, and environmental projects. Most recently, Dr. Grover has applied these techniques to research environmental and non-market valuation issues and to estimate consumer willingness to pay for energy efficiency. He has managed and worked on projects for the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the National Renewable Energy Lab, as well as for some of the largest electric utilities in the country.

### Litigation Experience

- Testified as expert on lost income due to a contract dispute in the ground shipping industry. *Michael Wieber vs. Fedex Ground*, Multnomah County Circuit Court (OR) (Plaintiff, April 2006).
- Wrote expert report regarding the role of financial intermediaries in the credit market in a case involving a furniture rental business.
- Testified as expert on lost compensation in a promotion discrimination case involving a police officer. *Michael Hudgins vs. City of Albany et al (Case # CV02-6040-TC)*, Lane County Circuit Court (OR) (Plaintiff, May 2005).
- Testified as expert on the economic impacts of the proposed Wild Horse wind power project in Washington State (Washington EFSEC, March 2005).
- Testified as expert on economic damages in wrongful termination case involving funeral home employees. *Mary Lee Husted, Dennis Loveless, William Summers, and Dennis Loveless vs. SCI Oregon Funeral Services, Inc.*, Lane County Circuit Court (OR) (Defendant, March 2005).
- Testified as expert on lost compensation in a wrongful termination case involving a delivery truck driver. *Jason Posivio vs. Liberty Trucking*, Multnomah County Circuit Court (OR) (Defendant, January 2005).
- As an expert witness, estimated damages and wrote expert report for a personal injury (Plaintiff, January 2005).
- Submitted written testimony on the potential economic impacts of the Kittitas Valley wind project (Washington EFSEC, July 2004).
- As an expert witness, estimated damages and wrote expert report for a personal injury (Plaintiff, 2004).
- As an expert witness, estimated damages and wrote expert report on the value of lost compensation and medical expenses resulting from a personal injury (Plaintiff, 2004).
- As expert, estimated damages and wrote expert report on lost compensation in a wrongful termination case in the insurance industry (Defendant, 2003).
- As an expert witness, estimated damages and wrote expert report on lost compensation in a promotion discrimination case involving a corrections officer (Plaintiff, 2003).

- As an expert witness, estimated damages and wrote expert report on the value of lost household services in a wrongful death case (Plaintiff, 2003).
- As an expert witness, estimated damages and wrote expert report on lost compensation in a wrongful termination case involving a truck driver (Defendant, 2003).
- Testified on damages as expert witness in wrongful termination case in the insurance industry. *Jeff Thomas vs. American Family Insurance*, Multnomah County Circuit Court (OR) (Defendant, 2003).
- As an expert witness, estimated damages and wrote expert report on lost compensation in a wrongful termination case (Defendant, 2002).
- Developed wage prediction model as expert witness in a wage discrimination case (Defendant, 2002).
- Estimated damages due to lost compensation as part of a wrongful termination case (Defendant, 2001).
- Assisted in damages estimation in a wrongful termination case (Defendant, 2001).
- Estimated damages due to lost compensation as part of a wrongful termination case (Defendant, 2000).

### **Energy Project Experience**

- For the Northwest Energy Efficiency Alliance, conducting an evaluation of the ENERGY STAR Homes Northwest program.
- For the Oregon DOE, estimated the economic impacts of its business and residential energy tax credits (BETC/RETC).
- For Pacific Gas and Electric, conducting evaluation of seven local government energy conservation programs operating in partnership with local governments.
- For the Bonneville Power Administration, conducting a process evaluation of their Residential Loan Program offered for energy efficiency equipment investments.
- For Sempra Utilities, conducting impact and process evaluations for two commercial conservation programs.
- For Southern California Edison, performing an impact evaluation to determine energy savings resulting from a non-residential financial incentives program.
- For the State of Washington, developed a guidebook to help rural counties to estimate the potential economic impacts of small wind projects.
- For Vestas Wind, estimated the economic benefits to Oregon of having a wind power manufacturing plant located within the state.
- For the Northwest Energy Efficiency Alliance, developed guidelines and a financing guidebook for hospitals considering outsourcing energy management for their facilities.
- For the National Renewable Energy Laboratory (NREL), conducting a market assessment for commercial solar energy technologies.
- For the New York State Energy Research and Development Authority (NYSERDA), developing logic models and program theory for the 41 energy efficiency and renewable energy programs included in the New York Energy \$mart program portfolio.
- For Enbridge Consumer Gas in Toronto, conducting an audit of their 2002 and 2003 DSM program evaluations and providing recommendations on evaluation and reporting procedures.
- For the Energy Trust of Oregon, conducting process evaluations of their residential and commercial new construction programs and assessing market areas that new programs should target.
- For the Energy Trust of Oregon, estimated economic impacts of program spending and energy savings attributed to their energy efficiency and renewable energy programs.
- For a local economic development group, analyzed the potential economic benefits and effects on property values of a large wind energy farm in Kittitas County, WA.
- For NREL and the DOE, wrote report documenting the effects of Federal R&D in energy efficient technologies in the buildings sector over the last 25 years.
- For NREL, assessed status of solar energy research and provided recommendations for future R&D for several solar technologies.

- For the Northwest Energy Efficiency Alliance, measured and evaluated the market transformation effects of an Energy Star residential lighting program.
- For a private client, analyzed potential costs associated with public-private ownership of Portland General Electric.
- For the California PUC Office of Ratepayer Advocates, performed a verification analysis of DSM program savings estimates for California utilities.
- For the National Renewable Energy Laboratory, ongoing economic analysis support for researching clean energy issues.

### **Other Project Experience**

- For a private client, developing a plan to analyze the potential impacts of medical malpractice reform initiatives.
- Updated the AASHTO “Redbook” manual for conducting transportation-related benefit-cost analysis for state transportation agencies.
- Fiscal impact analysis of a proposed annexation for the City of Tualatin.
- Developed an environmental cost accounting system framework for the Washington DOT.
- Benefit-cost analysis of proposed Traffic Relief Option highway projects for Portland Metro.
- Developed guidebook for transit agencies to measure the benefits and disbenefits of providing rail and bus transit.
- Analysis of growth in drug and health care spending under the Oregon Health Plan.

### **Presentations**

- “Hard to Reach? Hard to Tell Lessons Learned From California,” presented at the 2005 International Energy Program Evaluation Conference, New York, NY, August 2005.
- “Local Government Partnerships: Working Together for Efficiency A Theoretical Portfolio Analysis Method,” presented at the 2005 International Energy Program Evaluation Conference, New York, NY, August 2005.
- “Private-Sector Commercial Customers and Market Drivers to Early Solar Adoptions,” presented at the World Renewable Energy Congress VIII and Expo, Denver, CO, September 2004.
- “Estimating the Local Economic Benefits of Community Wind Projects: A Guidebook for Washington State,” presented at the 2005 American Wind Energy Association Conference, May 2005.
- “Reaping the Wind: The Economic Impacts of Spending on Renewable Energy and Energy Efficiency Programs,” presented at the ACEEE 2004 Summer Study on Energy Efficiency in Buildings Conference, August 2004.
- “Consumer Preferences for CFLs Over Time: Where Are We Going?” presented at the ACEEE 2004 Summer Study on Energy Efficiency in Buildings Conference, August 2004.
- “Commercial Customers and Market Drivers to Early Solar Adoptions,” presented at the American Solar Energy Society Conference, Portland, OR, July 2004.
- “Economic Development Benefits of Wind Power: A Guide for Communities for Estimating the Benefits of Wind Projects,” presented at the Community Wind Energy Conference, Minneapolis, MN, June 2004.
- “Economic Impacts of Wind Power in Kittitas County, WA,” presented at the Harvesting Clean Energy Conference, Portland, OR, January 2004.
- “A Comparison of Rebates and Non-Rebate Promotions in a Residential Lighting Program,” presented at the International Energy Program Evaluation Conference, Seattle, WA, August 2003.
- “The Economic Impacts of Wind Energy in Kittitas County, WA” presented at the NREL Energy Analysis seminar, Washington, DC, December 2002.
- “Saturation, Penetration, Transformation: How Do You Know When a Market Has Changed?” presented at the ACEEE 2002 Summer Study on Energy Efficiency in Buildings Conference, August 2002.
- “Shedding Light on Energy Efficient Lighting Markets in the Pacific Northwest,” presented at the 2002 Pacific Northwest Regional Economics Conference, Portland, OR, May 2002.

- “Non-Energy Benefits: Lessons from Non-Energy Worlds,” presented at the 2001 Association of Energy Service Providers (AESP) Conference, Jacksonville, FL, December 2002.
- “Shedding Light on Energy Star Markets: Evaluation Lessons Learned from a Retail Lighting Market Transformation Program,” presented at the 2001 International Energy Program Evaluation Conference, Salt Lake City, UT, August 2001.
- “Pay Now, Save Later: Using Conjoint Analysis to Estimate Consumers’ Willingness to Pay for Energy Efficiency,” presented at the ACEEE 2000 Summer Study on Energy Efficiency in Buildings, August 2000.
- “High Efficiency Clothes Washers: Whiter Whites with Less Energy?,” presented at the International Energy Program Evaluation conference, Denver, CO, 1999.
- “Market Penetration: How to Predict the Future,” presented at the ACEEE 1998 Summer Study on Energy Efficiency in Buildings, August 1998.
- “A Nested Logit Model of Congestion and Recreation Demand,” presented at the Western Economics Conference, San Diego, CA, 1995.

### **Selected Recent Publications**

- “Hard to Reach? Hard to Tell Lessons Learned From California,” with Peter Graven and Rob Rubin, in *Proceedings of the 2005 International Energy Program Evaluation Conference*, New York, NY, August 2005.
- “Local Government Partnerships: Working Together for Efficiency A Theoretical Portfolio Analysis Method,” with Chris Ann Dickerson, Valerie Richardson, Betsy Krieg, and Craig Tyler, in *Proceedings of the 2005 International Energy Program Evaluation Conference*, New York, NY, August 2005.
- “Private-Sector Commercial Customers and Market Drivers to Early Solar Adoptions,” with Robert Margolis, in *Proceedings of the World Renewable Energy Congress VIII* (Denver, CO), September 2004.
- “Reaping the Wind: The Economic Impacts of Spending on Renewable Energy and Energy Efficiency Programs,” with Alec Josephson, Ben Bronfman, and Fred Gordon, in *Proceedings of the ACEEE 2004 Summer Study on Energy Efficiency in Buildings*, Washington DC, ACEEE, 2004.
- “Consumer Preferences for CFLs Over Time: Where Are We Going?” with Peter Graven and Emily French, in *Proceedings of the ACEEE 2004 Summer Study on Energy Efficiency in Buildings*, Washington DC, ACEEE, 2004.
- “Commercial Customers and Market Drivers to Early Solar Adoptions,” with Robert Margolis, in *Proceedings of 33<sup>rd</sup> ASES Annual Conference*, Boulder, CO, 2004.
- “A Comparison of Rebates and Non-Rebate Promotions in a Residential Lighting Program,” with Charisa Flaherty, in *Proceedings of the 2003 IEPE Conference*, IEPE, Oregon, WI, 2003.
- “The Economic Impacts of a Proposed Wind Power Plant in Kittitas County, Washington State, USA.” *Wind Energy Engineering*, Volume 26, No. 5 (2002).
- “Saturation, Penetration, Transformation: How Do You Know When a Market Has Changed?” with David Cohan and My Ton, in *Proceedings of the ACEEE 2002 Summer Study on Energy Efficiency in Buildings*, Washington DC, ACEEE, 2002.
- “Shedding Light on Energy Star Markets: Evaluation Lessons Learned from a Retail Lighting Market Transformation Program,” with David Cohan, in *Proceedings of the 2001 IEPE Conference*, IEPE, Oregon, WI, 2001.
- “Pay Now, Save Later: Using Conjoint Analysis to Estimate Consumers’ Willingness to Pay for Energy Efficiency,” with Bill Babiuch, in *Proceedings of the ACEEE 2000 Summer Study on Energy Efficiency in Buildings*, Washington DC, ACEEE, 2000.
- “High Efficiency Clothes Washers: Whiter Whites, Less Energy?” with Christie Torok and Bill Babiuch, in *Proceedings of the 1999 International Energy Program Evaluation Conference*, Denver, CO, 1999.
- “Market Penetration: How to Predict the Future,” with Ibbie Ikenze-Bates, in *Proceedings of the ACEEE 1998 Summer Study on Energy Efficiency in Buildings*, Washington DC, ACEEE, 1998.