



## Contact

### Rocky Mountain Institute

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**Our Mission:** Rocky Mountain Institute (RMI) is an entrepreneurial nonprofit organization that fosters the efficient and restorative use of natural, human and other capital to make the world more secure, just, prosperous, and life sustaining. We do this by inspiring business, civil society, and government to design integrative solutions that create true wealth.

#### RMI Research & Consulting:

Since 1982, RMI has worked with corporations, governments, communities, and citizens to help them solve problems, gain competitive advantage, increase profits, and create wealth through the more productive use of resources. The Research & Consulting team is grounded in RMI's unique blend of whole system thinking, integrative design, end-use/least-cost analysis, and an interdisciplinary knowledge of advanced technologies and techniques.

Research & Consulting provides an array of advisory services within—and more importantly, *across*—three service groups:

#### Integrated Design Practices (IDP)

#### Energy & Resources Services (ERS)

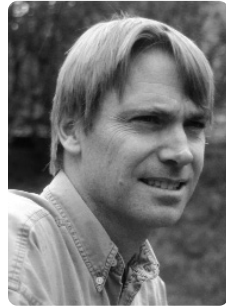
#### Green Development Services (GDS)

For additional information, as well as a downloadable version of this document, please see our website: [www.rmi.org](http://www.rmi.org)

# Joel Swisher

Energy & Resources Services

## Experience Summary



Dr. Swisher has more than 20 years' experience in research and consulting on many aspects of clean energy technology. He is an internationally recognized expert in the analysis, design, and evaluation of building energy systems, utility energy efficiency, distributed generation, emission reduction programs, and the development and finance of carbon offset projects. His Ph.D. dissertation introduced several key concepts in the technical analysis of carbon offsets, based on

fieldwork in Central America, evaluating energy, conservation, and reforestation options. His broad international experience in the private, public, and academic sectors provides a background that is firmly grounded in theory and analysis and tempered by the practical realities of project implementation and finance. Dr. Swisher has worked in fifteen countries in North America, Latin America, Europe, Africa, Asia and Australia. He speaks five languages and is an experienced public speaker.

## Relevant Experience

### Rocky Mountain Institute, Research & Consulting, 2001–Present.

As leader of RMI's Energy & Resources Services team, Dr. Swisher has directed and participated in consulting projects for clients such as the City of San Francisco, the Hawai'i Island Economic Development Board, and numerous industrial and utility clients. He has contributed key pieces of RMI's intellectual capital, including *The New Business Climate: A Guide to Lower Carbon Emissions and Better Business Performance* and the monograph *Cleaner Energy, Greener Profits: Fuel Cells as Cost-Effective Distributed Energy Resources*, both published by RMI. He is a coauthor of the acclaimed RMI book *Small is Profitable: The Hidden Benefits of Making Electrical Resources the Right Size*.

**Stanford University, Visiting Professor, January–June 2003.** As Visiting Professor in the Civil and Environmental Engineering Department, Dr. Swisher taught two courses on Greenhouse Gas Management and Sustainable Energy.

**E4, Inc.; Co-Founder and President; 1995–2001.** In this private consulting enterprise, Dr. Swisher worked with the electric utility industry, multilateral financial institutions and private corporations. He helped develop carbon offset projects using renewable energy and energy efficiency technology, and he wrote baseline studies and monitoring and verification plans for offset buyers such as the World Bank Prototype Carbon Fund. Dr. Swisher analyzed and evaluated electric power markets for Brazilian utilities, numerous energy-efficiency programs for utilities in North America, greenhouse gas trading programs for European governments, and carbon emission reduction options for several multilateral banks. E4 projects included utility emissions analysis and evaluation, energy-efficiency policy analysis and training materials, analysis and development of emission offset projects, and use of area-specific cost analysis

Joel Swisher...

## Education

**Stanford University**, Ph.D., Resources Planning Program, Civil Engineering Department; 1991

**Stanford University**, M.S., Thermosciences Program, Mechanical Engineering Department; 1980

**Stanford University**, B.S., Civil Engineering; 1978

## Qualifications

### Registered Professional Engineer

**Languages:** fluent in Swedish, speaks functional Spanish, Portuguese, and German

## Publications

***The New Business Climate: A Guide to Lower Carbon Emissions and Better Business Performance***, RMI, 2003.

***Cleaner Energy, Greener Profits: Fuel Cells as Cost-Effective Distributed Energy Resources***, RMI, 2002.

***Small is Profitable: The Hidden Benefits of Making Electrical Resources the Right Size***, RMI, 2002, coauthor.

***Innovative Electric Solutions*** guidebook series for the Electric Power Research Institute, including ***Public Facilities Guidebook***, EPRI TR-1001223, 2000; ***Office Complex Guidebook***, EPRI TR-109450, 1997; and ***Educational Facilities Guidebook***, EPRI TR-107123, 1996 (revised 2000).

***Tools and Methods for Integrated Resource Planning: Improving Energy Efficiency and Protecting the Environment***, UNEP Collaborating Centre on Energy and Environment, Risø National Lab, Denmark, 1997.

Dr. Swisher is author of over 100 additional professional publications including several energy-efficiency handbooks.

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for the purposes of asset valuation, designing utility rate structures, and targeting electric power generation projects and load management programs. Other clients included several corporations and electric utilities, European governments, and the Electric Power Research Institute.

### **UNEP (United Nations Environment Programme) Collaborating Centre on Energy and Environment, at Risø National Laboratory, Denmark; 1993–95.**

Dr. Swisher developed programs to assist developing countries with environmentally sustainable energy planning and did research on national-level options, costs and benefits of reducing environmental emissions. He also engaged in collaborations with energy ministries and utilities in Brazil, Venezuela, and Sri Lanka.

### **NUTEK (Swedish National Board for Technology and Industrial Development), Stockholm; 1991–93.**

Working at Lund University, Dr. Swisher was responsible for a national study of the timing of end-use efficiency improvements and issues of time-dynamics in integrated electricity planning. He evaluated existing energy-efficiency improvements and programs and researched the role of energy efficiency in a competitive electricity market.

**Electric Power Research Institute, 1989–91.** Mr. Swisher served as an engineering consultant to commercial energy utilization and demand-side management departments. He evaluated potential for DSM technologies to reduce utilities' contribution to air-pollution emissions. And he conducted technical and economic analysis of lighting, heating, and cooling efficiency options in buildings and the resulting utility load, production cost and environmental impacts.

**Architectural Energy Corporation, Senior Engineer, 1986–88.** Mr. Swisher was responsible for engineering analysis, computer software development, and field data acquisition for passive and active solar and energy-conserving residential and commercial buildings. His duties included business development, economic and policy analysis, and writing guides and manuals for local and international readers. This work led to the development of state-of-the-art building-energy diagnostic and evaluation methods.

### **Pacific Energy Design, Auckland, New Zealand; Consulting Engineer; 1984–86.**

Mr. Swisher was consultant to the Ministry of Energy, responsible for residential energy design guidelines, building energy performance monitoring and evaluation, and low-energy residential and regional planning and policy development.

### **Solar Energy Research Institute (now NREL), Research Engineer, 1980-83.**

Mr. Swisher performed research on solar-heated and low-energy buildings using computer simulation studies and monitoring of existing buildings. His duties included experimental design, supervision of field instrumentation crews, building and system performance evaluation, economic analysis, and advising utilities and building and heating industries.