

**PAUL N. LEIBY**

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**Summary of Qualifications**

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Over 25 years of experience conducting and leading research projects on the economic analysis of resource and energy policy including renewable energy resources. Particular experience in energy security, advanced motor fuels and technology transitions.

**Work History and Accomplishments**

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**1987 to present Oak Ridge National Laboratory, Environmental Science Division, Oak Ridge, Tennessee Distinguished Research Scientist, Group Leader: Energy Analysis**

- Conducted and led multiple research projects on the economic analysis of resource and energy policy. Leader of Transitional Advanced Vehicle and Fuel modeling project.
- Focus on quantitative energy analysis and modeling.

**1979 to 1987 Energy And Environmental Policy Center, Harvard University**

- Research Coordinator, International Energy Study, 1986-1987.
- Research Fellow in Oil and Gas Policy, 1985-1986. Examined U.S. Strategic Petroleum Reserve policy in context of oil market risk and uncertainty.
- Research Assistant (part and full time, 1981-1985). Member of Synthetic Fuels Study Group. Studied solar energy policy and natural gas curtailment (1979-1981).

**Education and Training**

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Harvard Graduate School of Arts and Sciences, (ABD) in Public Policy.

Kennedy School of Government, 1981, Master's Degree in Public Policy.

Specialized in Modeling Energy and Environmental Policy.

Harvard College, 1979, AB Magna Cum Laude, with Highest Honors in Science and International Affairs.

Honors Thesis: Nuclear Fuel Reprocessing Initiatives.

**Representative Publications**

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Leiby, Paul N. 2008. *Estimating the Energy Security Benefits of Reduced U.S. Oil Imports*, Final Report, ORNL/TM-2007/028, Oak Ridge National Laboratory, Revised March 14.

Greene, D.L., P.N. Leiby, B. James, J. Perez, M. Melendez, A. Milbrandt, S. Unnasch, M Hooks; ed. S. McQueen, dir. by S. Gronich. 2008. *Analysis of the Transition to Hydrogen Fuel Cell Vehicles & the Potential Hydrogen Energy Infrastructure Requirements*, ORNL/TM-2008/30, Oak Ridge Nat'l Laboratory.

"Integrated Analysis of Vehicle Market Transformation Scenarios with HyTrans," David L. Greene, Paul N. Leiby and David Bowman. Oak Ridge National Laboratory, ORNL/TM-2007/094, June 2007.

"Tradable Fuel Economy Credits: Competition and Oligopoly," Submitted to *Journal of Environmental Economics and Management*, Jonathan Rubin, Paul N. Leiby and David L. Greene, 3 October 2006.

"Oil Independence: Achievable National Goal or Empty Slogan?" David L. Greene, Paul N. Leiby, Philip D. Patterson, Steven E. Plotkin, Margaret K. Singh. *Transp. Research Record* No. 2017, pp. 47-53 2007.

"Systems Analysis of the Hydrogen Transition with HyTrans," Paul N. Leiby, David L. Greene, David Bowman, Elzbieta Tworek August 1, 2005. Submitted to the *Transportation Research Record*.

"Economic Benefits of Expanded Strategic Petroleum Reserve Size or Drawdown Capability," Paul Leiby and David Bowman, December 31, 2005, Final Report, Oak Ridge National Laboratory, ORNL/TM-2006/5.

Paul Leiby and Jonathan Rubin 2004. "Understanding the Transition to New Fuels and Vehicles: Lessons Learned from Analysis and Experience of Alternative Fuel and Hybrid Vehicles," Chapter 14 in Daniel Sperling and James S. Cannon, *The Hydrogen Energy Transition* (London: Elsevier Academic Press).

Jones, Donald W., Paul N. Leiby, and Inja K. Paik 2004. "Oil Price Shocks and the Macroeconomy: What Has Been Learned since 1996," *Energy Journal*, 25(3).

"Transitions in Light-Duty Vehicle Transportation: Alternative Fuel and Hybrid Vehicles and Learning," Paul N. Leiby and Jonathan Rubin, *Transportation Research Record*, 2003.

"Possible Responses to Global Climate Change: Integrating Mitigation and Adaptation," Wilbanks, T., S. Kane, P. Leiby, R. Perlack, C. Settle, J. Shogren, and J. Smith, *Environment*, 45(5):28-38, 2003.

"Improving Energy Security Through an International Cooperative Approach to Emergency Oil Stockpiling," Proc. 25th Annual IAEE International Conference, Paul N. Leiby, David Bowman, and Donald W. Jones, 2002. June 26-29, Aberdeen, Scotland.

Effectiveness and Efficiency of Policies to Promote Alternative Fuel Vehicles, Paul Leiby and Jonathan Rubin, *Transportation Research Record*, Vol 1750, pp. 84-91, 2001.

"Intertemporal Permit Trade for the Control of Greenhouse Gas Emissions," Paul Leiby and Jonathan Rubin, *Environmental and Resource Economics*, Vol 19(3), pp 229-256, 2001.

An Analysis of Alternative Fuel Credit Provisions of US Automotive Fuel Economy Standards, Jonathan Rubin and Paul Leiby, *Energy Policy*, 28(9):589- 602, (July, 2000).

The Value of Expanding the U.S. Strategic Petroleum Reserve, Paul N. Leiby and David Bowman, Oak Ridge National Laboratory, January 23, 2000. ORNL/TM-2000/179, January 23, 2000.

"The Value of Expanding Asian Pacific Strategic Oil Stocks," Paul N. Leiby and David Bowman, Energy Division, Oak Ridge National Laboratory, ORNL-1999/39, January 23, 2000.

Emergency Oil Stocks and Energy Security in the APEC Region, Asia Pacific Energy Research Centre, K. Yokobori *et al.*, Tokyo, March 2000.

"The Alternative Fuel Transition: Results from the TAFV Model of Alternative Fuel Use in Light-Duty Vehicles 1996-2010," Final Report - TAFV Version 1, May 4, 2000, Paul Leiby, ORNL/TM-2000/168

"Sustainable Transportation: Analyzing the Transition to Alternative Fuel Vehicles," Paul Leiby and Jonathan Rubin, *Transportation Research Board Circular, Transp., Energy, & Environment*, No. 492, August 1999

Ohio River Navigation Investment Model Requirements and Model Design, M.S. Bronzini, T.R. Curlee, P.N. Leiby, F. Southworth, and M.S. Summers, 1998. *Transportation Research Record*, 1620:17-26

The Outlook for Oil Dependence, D.L. Greene, D.W. Jones, & P.N. Leiby, *Energy Policy* 26(1):55-60, 1998.

Marland, Gregg, Bernhard Schlamadinger, and Paul Leiby, 1997. Forest/Biomass Based Mitigation Strategies: Does the Timing of Carbon Reductions Matter? *Critical Reviews in Environmental Science and Technology*, 27(Special):S213-226.

Leiby, Paul and Jonathan Rubin, 1997 The Transitional Alternative Fuels and Vehicles Model, Paul Leiby and Jonathan Rubin. *Transportation Research Record*, 1587:10-18.

### **Other Pertinent Information**

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- Member, Alternative Fuels Committee, in the Transportation Research Board, of the NRC (Secretary).
- Reviewed papers for: *Journal of Environmental Economics and Management*, *Operations Research Applications*, *Science*, *The Energy Journal*, and the *European Journal of Operations Research*.
- Recipient of multiple awards from ORNL and UT-Battelle for Research Accomplishment (2000) and for Significant Research Events (2002, 1995, 1989)
- Recipient, Crump Fellowship for Oil and Gas Studies (1985-1986).
- Recipient, Sheldon Scholarship for graduate studies (1983 and 1984 academic years).

- Graduated Magna cum Laude, Harvard College, with Highest Honors in Area of Concentration (1979).