

RUSSELL LEE, Ph.D.

PRESENT POSITION

Distinguished R&D Staff Member, Science and Technology Policy
Environmental Sciences Division, Oak Ridge National Laboratory (ORNL)
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PREVIOUS POSITIONS

- Director, Center for Energy and Environmental Analysis, ORNL
- Program Leader, Energy and Environmental Policy Analysis; and Program Leader, Intelligent Transportation Systems Modeling, Simulation and Economics, ORNL
- Acting Program Manager, New Independent States Initiatives for Proliferation Prevention, ORNL
- Leader, Economics and Modeling Group; and Resource Analysis Group, ORNL
- Research Staff Member and Program Manager, ORNL
- Assistant Professor, Department of Geography, The University of Iowa
- Instructor, Department of Geography, Boston University

EDUCATION

- Ph.D., Economic Geography, McMaster University, Canada
- B.A., M.A., Economic Geography, University of Toronto, Canada

NOTABLE ACCOMPLISHMENTS

- Played a significant role in helping the Office of Energy Efficiency and Renewable Energy (EERE), U.S. Department of Energy (DOE) to develop and implement a framework for estimating the benefits of its R&D programs
 - envisioned, planned, and carried out the "Benefits Conference" with participation by three DOE assistant secretaries, congressional staff, Office of Management and Budget, DOE program managers, analysts and others that developed key ideas subsequently implemented by EERE (refer to *Inside Energy* (11 March 2002), and to link on current EERE web site)
 - developing and helping EERE to implement new methods to estimate environmental benefits associated with human health impacts, ecological impacts, option benefits, and energy security benefits
- As Director of the Center for Energy and Environmental Analysis at ORNL, led programs in Environmental Impact Analysis, Economic Analysis, Regional Analysis, Industrial Energy Analysis, and Waste Management Analysis

- led the growth, and the turnaround in some of these programs, increasing R&D program budgets from \$6 million per year to \$12 million per year, in a period of less than three years
- carried out financial, personnel and program management with five direct-report program managers and an additional forty to fifty staff working on Center projects – maintained high customer satisfaction with no cost overruns or unacceptable deliverables
- Developed several different performance measurement methods and applied them to prospectively assess
 - the benefits of energy technology R&D, for the Office of Electricity Delivery and Energy Reliability, and Office of Fossil Energy, DOE;
 - new homeland security technologies and facilities, for the Department of Homeland Security (DHS), Transportation Security Administration, and for the Office of Science and Technology, DHS;
 - the benefits and costs of using different intelligent transportation system technologies, and the usefulness of remote sensing technologies for environmental analysis and transportation planning, for the U.S. Department of Transportation; and
 - the benefits of health assessment and health study programs at Superfund sites, for the Agency for Toxic Substances and Disease Registry of the U.S. Department of Health and Human Services
 - the benefits of improvements of infrastructure and management of inland waterways systems, for the U.S. Army Corps of Engineers, U.S. Department of Defense
- Led the U.S. analysis team in the joint DOE-European Commission multi-million dollar study of the environmental externalities of alternative electricity generation technologies, considered to be one of the most comprehensive and ground-breaking studies on the subject
 - frequently cited eight-volume report published by Utility Data Institute, a division of McGraw-Hill
 - established the standard in Europe for estimating environmental externalities of energy production and use
 - several individual and team awards and recognition – Oak Ridge National Laboratory Special Achievement and Significant Event Awards
- Led or had significant role in development of energy market, policy and planning models – for biomass, waste energy, coal, Strategic Petroleum Reserve, and uranium market – used by DOE's Energy Information Administration and Office of Fossil Energy
- Authored or co-authored over 200 publications and reports in energy planning and policy analysis, environmental and health impacts of energy production and use, energy resource analysis, science and technology policy analysis, transportation economics, and evaluation of homeland security systems
- Invited to present workshops, serve on expert panels, and consult on the subject of the

impacts of electricity generation technologies, global climate change, environmental externalities, technology R&D policy, waste management, and related issues by the National Academies, the U.S. Department of Energy, the Organisation for Economic Cooperation and Development, the Commission of the European Communities, the International Energy Agency, the National Association of Regulatory Utility Commissioners, the International Atomic Energy Agency, the United Nations Framework Convention on Climate Change, foreign governments, universities, and industry

SIGNIFICANT AWARDS

- Lockheed Martin Awards Night B Sustained Research Accomplishment Award, for achievement as lead author of the important book series, *Estimating the Externalities of Fuel Cycles*, 1999
- Association of American Geographers Honors Award, 1995 C Award for best report in applied geography in 1994
- Martin Marietta Energy Systems Awards Night C Award for Significant R&D Accomplishment 1994

APPOINTMENTS AND INVITED PRESENTATIONS TO NATIONAL RESEARCH COUNCIL (NRC)

- Member of Project Panel on Performance Measurement Tool Box and Reporting System for Research Programs and Projects, National Cooperative Highway Research Program
- Member of the Social and Economic Factors in Transportation Committee, Transportation Research Board (TRB)
- Former member of the Transportation Economics Committee, TRB
- Invited briefings to NRC Committees on Benefits of DOE's Energy Efficiency and Fossil Energy R&D Programs

SELECTED PUBLICATIONS

- Lee, R., Jordan, G., Leiby, P.N., Owens, B., Wolf, J.W. (2003) Estimating the benefits of government-sponsored energy R&D," Evaluation Research, Vol. 12, no. 3, pp. 183-195.
- Lee, R. (2002) Environmental impacts of energy use, Chapter 3 in Energy: Science, Policy, and the Pursuit of Sustainability, Robert Bent, Lloyd Orr and Randall Baker (eds.) Washington, DC: Island Press.
- B. D. Solomon and R. Lee, Emissions trading systems and environmental justice, Environment, Vol. 42, No. 8, October 2000, pp. 32-45.
- Lee, R., S. Hirschberg, C. Boone, R. Dutkiewicz, R. Wilson, and Y. Matsuki (1999) Health and Environmental Impacts of Electricity Generation Systems: Procedures for Comparative Assessment, Technical Reports Series No. 394, Vienna: International Atomic Energy Agency.

Lee, R., et al. (ORNL/RFF) (1994-98) Estimating Externalities of Fuel Cycles (seven volumes).
Washington, DC: McGraw-Hill/Utility Data Institute.

SUMMARY

- Close relationship with U.S. Department of Energy's Energy Efficiency and Renewable Energy's analysis programs, particularly in estimating the benefits of energy technology R&D
- Led turnaround and growth of energy and environmental analysis programs at ORNL
- Several decades of leadership in developing and successfully completing dozens of programs, amounting to tens of millions of dollars with U.S. Departments of Energy, Interior, Health and Human Services, Homeland Security, and Defense
- Results and achievements evidenced by several hundred reports, publications, panel appointments, and presentations in many countries and organizations