

## David I. Stern

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<http://stochastictrend.blogspot.com.au>; Twitter: @sterndavidi

Google Scholar: <http://scholar.google.com.au/citations?user=RdSI3fQAAAAJ>

Researcher ID: <http://www.researcherid.com/rid/B-4700-2009>

IDEAS: <http://ideas.repec.org/e/pst75.html>

### Employment

- 2011- Professor, Crawford School of Public Policy, The Australian National University.
- 2011 Associate Professor, Crawford School of Economics and Government, The Australian National University.
- 2009-2010 Fellow, Arndt-Corden Division of Economics, Crawford School of Economics and Government, The Australian National University.
- 2002-2007 Associate Professor, Department of Economics, Rensselaer Polytechnic Institute.
- 1996-2002 Research Fellow, Centre for Resource and Environmental Studies, The Australian National University.
- 1995-1996 Visiting Assistant Professor, Center for Energy and Environmental Studies and Department of Geography, Boston University.
- 1993-1994 Research Fellow, Department of Environmental Economics and Environmental Management, University of York.
- 1990 Research Analyst, DP3 Ltd, London.

### Qualifications

- 1990-94 Boston University, Ph.D. Geography.
- 1988-89 London School of Economics, M.Sc. Geography.
- 1985-88 Hebrew University of Jerusalem, B.A. Geography and Economics.

### Professional Societies and Academies

- Fellow of the Academy of the Social Sciences in Australia.
- Member of: International Society for Ecological Economics (Treasurer of Australia-New Zealand Society for Ecological Economics, 1998 to 2002 and 2009-2011.), International Association for Energy Economics.

### Editing etc.

- Associate editor, *Ecological Economics*, 2002-.
- Academic editor, *PeerJ*, 2017-.
- Editorial advisory panel, *Nature Energy*, 2015-.
- Editorial advisory board, *Open Economics*, 2016-.
- Editorial advisory board, *Energy Journal*, 2018-.
- Editorial board, *Asia and the Pacific Policy Studies*, 2012-.
- Editor for directly submitted paper, *Proceedings of the National Academy of Sciences*, January 2018.
- Advisory Panel for the Commission for Environmental Cooperation 2005 Symposium.

Scientific Advisory Committee of ISEE 2004, 2010, and 2014 conferences.

- Initiated and managed several working paper series.

### **Research Funding**

- 2016-21 Department for International Development, UK. “Energy for Economic Growth.” Part of a consortium led by University of California Berkeley (Catherine Wolfram) and Oxford Policy Management. Total consortium budget £13 million. Leader for Theme 1 “The linkages between electricity supply and economic growth”.
- 2016 Research School of Asia and the Pacific, ANU, New Research Directions Grant. “Directed Technical Change and Trends in Energy Intensity.” \$A7,000.
- 2016-18 Australian Research Council, Discovery Project (DP160100756). “Energy Efficiency Innovation, Diffusion and the Rebound Effect.” Partner investigators: Stephan Bruns UniKassel; Alessio Moneta, Scuola Superior Sant’Anna. \$A273,000.
- 2015-18 Handelsbanken Research Foundation. “Energy Use and Economic Growth: a Long-run European Study (1870-2013)”. Co-investigators: Astrid Kander, Lund U., Sophia Henriques, U. Southern Denmark, Paul Sharp, U. Southern Denmark. SEK2 million.
- 2012-14 Australian Research Council, Discovery Project (DP120101088). “Energy Transitions: Past Present and Future”. Co-CI’s: Chunbo Ma, UWA; Jack Pezzey, ANU; Partner investigator: Astrid Kander, Lund U. \$A240,000.
- 2009-10 Modelling the Global Diffusion of Energy Efficiency and Low-Carbon Technology. Department of Environment and Water Resources under the Commonwealth Environment Research Facility. \$A110,000. Period funded: February 2009 – February 2010.
- 2004-06 The Effect of NAFTA on Energy and Environmental Efficiency in Mexico, Commission for Environmental Cooperation, Third North American Symposium on Assessing the Environmental Effects of Trade, US\$12,000. Period funded: November 2004 – February 2006.
- 2004 Economic Development and Emissions of Radiatively Important Pollution, United States Environmental Protection Agency, Clean Air Markets Division, US\$25,609. Period funded: 1 March 2004 – 31 August 2004.

### **Publications**

#### ***Journal Articles***

Bruns S. B. and D. I. Stern (in press) Lag length selection and p-hacking in Granger-causality testing: Prevalence and performance of meta-regression models, *Empirical Economics*.

Stern D. I., R. Gerlagh, and P. J. Burke (2017) Modeling the emissions-income relationship using long-run growth rates, *Environment and Development Economics* 22(6), 699-724.

Stern D. I. (2017) How accurate are energy intensity projections? *Climatic Change* 143, 537-545.

- Zhang W., D. I. Stern, X. Liu, W. Cai, and C. Wang (2017) An analysis of the costs of energy saving and CO<sub>2</sub> mitigation in rural households in China, *Journal of Cleaner Production* 165, 734-745.
- Stern D. I. and J. van Dijk (2017) Economic growth and global particulate pollution concentrations, *Climatic Change* 142, 391-406.
- Stern D. I. (2017) The environmental Kuznets curve after 25 years, *Journal of Bioeconomics* 19, 7-28.
- Ma C. and D. I. Stern (2016) Long-run estimates of interfuel and interfactor elasticities, *Resource and Energy Economics* 46, 114-130.
- Bruns S. B. and D. I. Stern (2016) Research assessment using early citation information, *Scientometrics* 108, 917-935.
- Stern D. I. and D. Zha (2016) Economic growth and particulate pollution concentrations in China, *Environmental Economics and Policy Studies* 18, 327-338.
- Lu Y. and D. I. Stern (2016) Substitutability and the cost of climate mitigation policy, *Environmental and Resource Economics* 64, 81-107.
- Sanchez L. F. and D. I. Stern (2016) Drivers of industrial and non-industrial greenhouse gas emissions, *Ecological Economics* 124, 17-24.
- Costanza R., R. B. Howarth, I. Kubiszewski, S. Liu, C. Ma, G. Plumecocq, and D. I. Stern (2016) Influential publications in ecological economics revisited, *Ecological Economics* 123, 68-76.
- Csereklyei Z., M. d. M. Rubio Varas, and D. I. Stern (2016) Energy and economic growth: The stylized facts, *Energy Journal* 37(2), 223-255.
- Halkos G. E., D. I. Stern, and N. G. Tzeremes (2016) Population, economic growth and regional environmental inefficiency: Evidence from U.S. states, *Journal of Cleaner Production* 112(5), 4288-4295.
- Csereklyei Z. and D. I. Stern (2015) Global energy use: Decoupling or convergence? *Energy Economics* 51, 633-641.
- Burke P. J., M. Shahiduzzaman, and D. I. Stern (2015) Carbon dioxide emissions in the short run: The rate and sources of economic growth matter, *Global Environmental Change* 33, 109-121.
- Dobes L., F. Jotzo, and D. I. Stern (2014) The economics of global climate change: A historical literature review, *Review of Economics* 65, 281-320.
- Stern D. I. (2014) High-ranked social science journal articles can be identified from early citation information, *PLoS ONE* 9(11), e112520.
- Gregory J. and D. I. Stern (2014) Fuel choices in rural Maharashtra, *Biomass and Bioenergy* 70, 302-314.
- Kander A. and D. I. Stern (2014) Economic growth and the transition from traditional to modern energy in Sweden, *Energy Economics* 46, 56-65.

- Bruns S. B., C. Gross, and D. I. Stern (2014) Is there really Granger causality between energy use and output? *Energy Journal* 35(4), 101-134.
- Stern D. I. and R. K. Kaufmann (2014) Anthropogenic and natural causes of climate change, *Climatic Change* 122, 257-269.
- Stern D. I. and K. Enflo (2013) Causality between energy and output in the long-run, *Energy Economics* 39, 135-146.
- Stern D. I. (2013) Uncertainty measures for economics journal impact factors, *Journal of Economic Literature* 51(1), 173-189.
- Stern D. I. (2012) Modeling international trends in energy efficiency, *Energy Economics* 34, 2200-2208.
- Stern D. I., J. C. V. Pezzey, and N. R. Lambie (2012) Where in the world is it cheapest to cut carbon emissions? *Australian Journal of Agricultural and Resource Economics* 56(3), 315-331.
- Jotzo F., P. J. Burke, P. J. Wood, A. Macintosh, and D. I. Stern (2012) Decomposing the 2010 global carbon dioxide emissions rebound, *Nature Climate Change* 2(4), 213-214.
- Stern D. I. and A. Kander (2012) The role of energy in the industrial revolution and modern economic growth, *Energy Journal* 33(3), 125-152.
- Stern D. I. (2012) Interfuel substitution: A meta-analysis, *Journal of Economic Surveys* 26(2), 307-331.
- Stern D. I., P. W. Gething, C. W. Kabaria, W. H. Temperley, A. M. Noor, E. A. Okiro, G. D. Shanks, R. W. Snow, and S. I. Hay (2011) Temperature and malaria trends in highland East Africa, *PLoS ONE* 6(9), e24524.
- Stern D. I. (2011) Elasticities of substitution and complementarity, *Journal of Productivity Analysis* 36(1), 79-89.
- Stern D. I. (2011) The role of energy in economic growth, *Annals of the New York Academy of Sciences* 1219, 26-51.
- Stern D. I. and F. Jotzo (2010) How ambitious are China and India's emissions intensity targets? *Energy Policy* 38(11), 6776-6783.
- Stern D. I. (2010) Between estimates of the emissions-income elasticity, *Ecological Economics* 69, 2173-2182.
- Stern D. I. (2010) Derivation of the Hicks, or direct, elasticity of substitution from the input distance function, *Economics Letters* 108, 349-351.
- Stern D. I. (2010) Energy quality, *Ecological Economics* 69(7), 1471-1478.
- Ma C. and D. I. Stern (2008) Biomass and China's carbon emissions: A missing piece of carbon decomposition, *Energy Policy* 36(7), 2517-2526.
- Ma C. and D. I. Stern (2008) China's changing energy intensity trend: a decomposition analysis, *Energy Economics* 30(3), 1037-1053.
- Stern D. I. (2007) The effect of NAFTA on energy and environmental efficiency in Mexico, *Policy Studies Journal* 35(2), 291-322.

- Stern D. I. (2006) An atmosphere-ocean multicointegration model of global climate change, *Computational Statistics and Data Analysis* 51(2), 1330-1346.
- Ma C. and D. I. Stern (2006) Environmental and ecological economics: a citation analysis, *Ecological Economics* 58(3), 491-506.
- Stern D. I. (2006) Reversal in the trend of global anthropogenic sulfur emissions, *Global Environmental Change* 16(2), 207-220.
- Stern D. I. (2005) Beyond the environmental Kuznets curve: Diffusion of sulfur-emissions-abating technology, *Journal of Environment and Development* 14(1), 101-124.
- Stern D. I. (2005) Global sulfur emissions from 1850 to 2000, *Chemosphere* 58, 163-175.
- Costanza R., D. I. Stern, B. P. Fisher, L. He, and C. Ma (2004) Influential publications in ecological economics: a citation analysis, *Ecological Economics* 50, 261-292.
- Stern D. I. (2004) The rise and fall of the environmental Kuznets curve, *World Development* 32(8), 1419-1439.
- Perman R. and D. I. Stern (2003) Evidence from panel unit root and cointegration tests that the environmental Kuznets curve does not exist, *Australian Journal of Agricultural and Resource Economics* 47, 325-347.
- Shanks G. D., S. I. Hay, D. I. Stern, K. Biomndo, and R. W. Snow (2002) Meteorological influences on *Plasmodium falciparum* malaria in the highland tea estates of Kericho, western Kenya, *Emerging Infectious Diseases* 8, 1404-1408.
- Hay S. I., D. J. Rogers, S. E. Randolph, D. I. Stern, J. Cox, G. D. Shanks, and R. W. Snow (2002) Hot topic or hot air? Climate change and malaria resurgence in East African highlands, *Trends in Parasitology* 18(12), 530-534.
- Stern D. I. (2002) Explaining changes in global sulfur emissions: an econometric decomposition approach, *Ecological Economics* 42, 201-220.
- Kaufmann R. K. and D. I. Stern (2002) Cointegration analysis of hemispheric temperature relations, *Journal of Geophysical Research* 107(D2), Article No. 4012.
- Hay S. I., J. Cox, D. J. Rogers, S. E. Randolph, D. I. Stern, G. D. Shanks, M. F. Myers, and R. W. Snow (2002). East African highland malaria resurgence independent of climate change, *Directions in Science* 1, 82-85.
- Hay S. I., J. Cox, D. J. Rogers, S. E. Randolph, D. I. Stern, G. D. Shanks, M. F. Myers, and R. W. Snow (2002) Climate change and the resurgence of malaria in the East African highlands, *Nature* 415(6874), 905-909.
- Stern D. I. and M. S. Common (2001) Is there an environmental Kuznets curve for sulfur? *Journal of Environmental Economics and Management* 41, 162-178.
- Stern D. I. and R. K. Kaufmann (2000) Detecting a global warming signal in hemispheric temperature series: a structural time series analysis, *Climatic Change* 47, 411-438.
- Perrings C. A. and D. I. Stern (2000) Modelling loss of resilience in agroecosystems: rangelands in Botswana, *Environmental and Resource Economics* 16, 185-210.
- Stern D. I. (2000) A multivariate cointegration analysis of the role of energy in the U.S.

macroeconomy, *Energy Economics* 22, 267-283.

Cleveland C. J., R. K. Kaufmann, and D. I. Stern (2000) Aggregation and the role of energy in the economy, *Ecological Economics* 32, 301-318.

Stern D. I. (2000) Applying recent developments in time series econometrics to the spatial domain, *Professional Geographer* 52, 37-49.

Stern D. I. (1999) Is energy cost an accurate indicator of natural resource quality? *Ecological Economics* 31, 381-394.

Stern D. I. (1999) Use value, exchange value, and resource scarcity, *Energy Policy* 27, 469-476.

Stern D. I. and R. K. Kaufmann (1999) Econometric analysis of global climate change, *Environmental Modelling and Software* 14, 597-605.

Stern D. I. (1998) Progress on the environmental Kuznets curve? *Environment and Development Economics* 3, 173-196.

Stern D. I. (1997) Limits to substitution and irreversibility in production and consumption: a neoclassical interpretation of ecological economics, *Ecological Economics* 21, 197-215.

Kaufmann R. K. and D. I. Stern (1997) Evidence for human influence on climate from hemispheric temperature relations, *Nature* 388, 39-44.

Stern D. I. (1997) The capital theory approach to sustainability: a critical appraisal, *Journal of Economic Issues* 31, 145-173.

Stern D. I., M. S. Common, and E. B. Barbier (1996) Economic growth and environmental degradation: the environmental Kuznets curve and sustainable development, *World Development* 24, 1151-1160.

Stern D. I. and R. K. Kaufmann (1996) Estimates of global anthropogenic methane emissions 1860-1993, *Chemosphere* 33, 159-176.

Stern D. I. (1995) Measurement unit invariant coefficients in multiplicative-logarithmic functions, *Applied Economics* 27, 451-454.

Stern D. I. (1995) The contribution of the mining sector to sustainability in developing countries, *Ecological Economics* 13, 53-63.

Stern D. I. (1994) Accuracy of the translog function, *Applied Economics Letters* 1, 172-174.

Stern D. I. (1994) Historical path-dependence of the urban population density gradient, *The Annals of Regional Science* 28, 197-223 and 27 (1993), 259-285.

Cleveland C. J. and D. I. Stern (1993) Productive and exchange scarcity: an empirical analysis of the U.S. forest products industry, *Canadian Journal of Forest Research* 23, 1537-1549.

Stern D. I. (1993) Energy use and economic growth in the USA: a multivariate approach, *Energy Economics* 15, 137-150.

Stern D. I. (1992) Explaining UK house price inflation 1971-1989, *Applied Economics* 24, 1327-1333.

Stern D. I. (1992) Do regions exist? Implications of synergetics for regional geography, *Environment and Planning A* 24, 1431-1448.

Stern D. I. (1992) Population distribution in an ethno-ideologically divided city: the case of Jerusalem, *Urban Geography* 13, 164-186.

Stern D. I. (1990) Ethno-ideological segregation and metropolitan development, *Geoforum* 21, 397-407.

### **Unpublished Working Papers**

Bruns S. B., Z. Csereklyei, and D. I. Stern (2018) A multicointegration model of global climate change, *CEGE Discussion Papers* 336.

Stern D. I. and R. Tol (2018) How to count citations if you must: Comment, *University of Sussex Economics Working Paper Series* 1-2018.

Csereklyei Z. and D. I. Stern (2017) Technology choices in the U.S. electricity industry before and after market restructuring, *CCEP Working Papers* 1703.

Stern D. I., P. J. Burke, and S. B. Bruns (2017) The impact of electricity on economic development: A macroeconomic perspective, *CEGA Working Papers, EEG State of Knowledge Series* 1.1.

Pezzey J. C. V., D. I. Stern, and Y. Lu (2017) Directed technical change and the British Industrial Revolution, *CAMA Working Papers* 26/2017.

Bruns S. B., J. König, and D. I. Stern. Replication and robustness analysis of 'Energy and economic growth in the USA: a multivariate approach'.

Csereklyei Z. and D. I. Stern. Airline fleet fuel economy.

Shanker A. and D. I. Stern. Energy and the direction of growth: Will autonomous energy efficiency improvements continue?

### **Comments etc.**

Stern D. I. (2017) Comment on Bornmann (2017): Confidence intervals for journal impact factors, *Scientometrics* 113(3), 1811-1813.

Stern D. I. (2012) Letter from the associate editor concerning the comments from Anthoff and Tol and Ackerman and Munitz, *Ecological Economics* 81, 41.

Hay S. I., G. D. Shanks, D. I. Stern, S. E. Randolph, R. W. Snow, and D. J. Rogers (2005) Climate variability and malaria epidemics in the highlands of East Africa, *Trends in Parasitology* 21(2), 52-53.

Hay, S. I., J. Cox, D. J. Rogers, S. E. Randolph, D. I. Stern, G. D. Shanks, M. F. Myers, and R. W. Snow (2002) Regional warming and malaria resurgence, *Nature* 420(6916), 628.

Stern D. I. (1990) Explaining house prices: a critique, *Area* 22, 75-76.

### **Book and Encyclopedia Chapters**

Stern D. I. (in press) Energy and economic growth, in: U. Soytaş and R. Sen (eds.) *Routledge Handbook of Energy Economics*, Routledge.

- Stern D. I. (2018) The environmental Kuznets curve, in: N. Castree, M. Hulme, and J. Proctor (eds.) *The Companion to Environmental Studies*, Routledge.
- Stern D. I. (2018) The environmental Kuznets curve, *Elsevier Reference Module in Earth Systems and Environmental Sciences*. Revision. Elsevier, Waltham MA. DOI: 10.1016/B978-0-12-409548-9.09278-2.
- Stern D. I. (2017) The environmental Kuznets curve, in: J. Kahn (ed.) *Oxford Research Encyclopedia of Environmental Economics*, Oxford University Press. DOI: 10.1093/acrefore/9780199389414.013.401.
- Stern D. I. (2016) Economic growth and energy, *Elsevier Reference Module in Earth Systems and Environmental Sciences*. Elsevier, Waltham MA. DOI: 10.1016/B978-0-12-409548-9.09716-5
- Stern D. I. (2015) Energy-GDP relationship, in: S. N. Durlauf and L. E. Blume (eds.) *New Palgrave Dictionary of Economics*, Online edition, Palgrave Macmillan. DOI: 10.1057/9780230226203.3947
- Stern D. I. (2015) The role of energy in economic growth, in: L. D. Guruswamy (ed.) *International Energy and Poverty: Emerging Contours*, Routledge, 11-23.
- Stern D. I. (2015) The environmental Kuznets curve, *Elsevier Reference Module in Earth Systems and Environmental Sciences*. Elsevier, Waltham MA. DOI: 10.1016/B978-0-12-409548-9.09278-2.
- Stern D. I., F. Jotzo, and L. Dobes (2014) Introduction, in: D. I. Stern, F. Jotzo, and L. Dobes (eds.) *Climate Change and the World Economy*, Edward Elgar, Cheltenham, xiii-xlii.
- Blanco G., R. Gerlagh, S. Suh, J. Barrett, H. de Coninck, C. F. Diaz Morejon, R. Mathur, N. Nakicenovic, A. O. Ahenkorah, J. Pan, H. Pathak, J. Rice, R. Richels, S. J. Smith, D. I. Stern, F. L. Toth, and P. Zhou (2014) Drivers, trends and mitigation, in: O. Edenhofer *et al.* (eds.) *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, 317-378.
- Stern D. I. (2014) Environmental Kuznets curve, in: J.-F. Morin and A. Orsini (eds.) *Essential Concepts of Global Environmental Governance*, Routledge, Abingdon, 109-110.
- Stern D. I. (2013) Ecological economics, in: A. H. El-Shaarawi and W. W. Piegorsch (eds.) *Encyclopedia of Environmetrics*, 2<sup>nd</sup> Edition, John Wiley, 745-748.
- Stern D. I. (2007) The elasticity of substitution, the capital-energy controversy, and sustainability, in: J. D. Erickson and J. M. Gowdy (eds.) *Frontiers in Ecological Economic Theory and Application*, Edward Elgar, Cheltenham, 331-352.
- Stern D. I. (2004) The environmental Kuznets curve, in: P. Safonov and J. Proops (eds.) *Modelling in Ecological Economics*, Edward Elgar, Cheltenham, 173-202.
- Cleveland C. J., R. K. Kaufmann, and D. I. Stern (2004) Aggregation of energy, in: Cleveland C. J. (ed.) *The Encyclopedia of Energy*, Academic Press, San Diego CA, 1, 17-28.
- Stern D. I. (2004) Economic growth and energy, in: C. J. Cleveland (ed.) *The Encyclopedia of Energy*, Academic Press, San Diego CA, 2, 35-51.



- Stern D. I. (2004) Environmental Kuznets curve, in: C. J. Cleveland (ed.) *The Encyclopedia of Energy*, Academic Press, San Diego CA, 2, 517-525.
- Stern D. I. (2004) Energy/GDP Ratio, window definition in: C. J. Cleveland (ed.) *The Dictionary of Energy*, Elsevier Science.
- Stern D. I. (2003) The environmental Kuznets curve, *Internet Encyclopaedia of Ecological Economics*.
- Dovers S., D. I. Stern and M. D. Young (2003) Ecological economics: prospects for integration and interdisciplinarity, in: Dovers S., D. I. Stern, and M. D. Young (eds.) *New Dimensions in Ecological Economics: Integrative Approaches to People and Nature*, Edward Elgar, Cheltenham, 1-12.
- Stern D. I. (2003) Modelling stochastic technological change in economy and environment using structural time series models, in: Dovers S., D. I. Stern, and M. D. Young (eds.) *New Dimensions in Ecological Economics: Integrative Approaches to People and Nature*, Edward Elgar, Cheltenham, 146-175.
- Perman R. and D. I. Stern (2002) Sustainable development, growth theory, environmental Kuznets curves and discounting, in J. C. J. M. van den Bergh (ed.) *Environmental Economics*, in *Encyclopedia of Life Support Systems*, UNESCO.
- Cleveland C. J., D. I. Stern, and R. Costanza (2001) Introduction: the changing nature of economics – towards an ecological economics, in: C. J. Cleveland, D. I. Stern, and R. Costanza (eds.), *The Economics of Nature and the Nature of Economics*, Edward Elgar, Cheltenham, 1-14.
- Stern D. I. (2001) The environmental Kuznets curve: A review, in: C. J. Cleveland, D. I. Stern, and R. Costanza (eds.), *The Economics of Nature and the Nature of Economics*, Edward Elgar, Cheltenham, 193-217.
- Cleveland C. J. and D. I. Stern (2001) Natural resource scarcity indicators: an ecological economic synthesis, in: C. J. Cleveland, D. I. Stern, and R. Costanza (eds.), *The Economics of Nature and the Nature of Economics*, Edward Elgar, Cheltenham, 238-261.
- Cleveland C. J. and D. I. Stern (1999) Indicators of natural resource scarcity: a review and synthesis, in: J. C. J. M. van den Bergh (ed.) *Handbook of Environmental and Resource Economics*, Edward Elgar, Cheltenham, 89-108.
- Stern D. I. and R. K. Kaufmann (1998) Estimates of Global Anthropogenic Methane Emissions: 1860-1994, *Trends Online: A Compendium of Data on Global Change*, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN.
- Cleveland C. J., R. K. Kaufmann, and D. I. Stern (1998) The aggregation of energy and materials in economic indicators of sustainability: thermodynamic, biophysical, and economic approaches, in S. Ulgiati (ed.) *Advances in Energy Studies*, Musis, Rome.
- Cleveland C. J. and D. I. Stern (1998) Indicators of natural resource scarcity: review, synthesis, and application to U.S. agriculture, in: J. C. J. M. van den Bergh and M. W. Hofkes (eds.) *Theory and Implementation of Economic Models for Sustainable Development*, Kluwer, Dordrecht, 113-138.

**Edited Books**

Stern, D. I., F. H. Jotzo, and L. Dobes (2014) *Climate Change and the World Economy*, Edward Elgar, Cheltenham.

Dovers S., D. I. Stern, and M. D. Young (2003) *New Dimensions in Ecological Economics: Integrative Approaches to People and Nature*, Edward Elgar, Cheltenham.

Cleveland C. J., R. Costanza, and D. I. Stern (2001) *The Economics of Nature and the Nature of Economics*, Edward Elgar, Cheltenham.

**Refereed Conference Proceedings (Contributor)**

Lu Y. and D. I. Stern (2014) Substitutability and the cost of climate mitigation policy, *Energy Procedia* 61, 1622-1625.

Stern D. I. (2006) The effect of NAFTA on energy and environmental efficiency in Mexico, *Third North American Symposium on Assessing the Environmental Effects of Trade: Proceedings*, Commission for Environmental Cooperation, Montreal.

Cleveland C. J., R. K. Kaufmann, and D. I. Stern (1998) The aggregation of energy and materials in economic indicators of sustainability: thermodynamic, biophysical, and economic approaches, *Proceedings of the International Workshop on Advances in Energy Studies: Energy Flows in Ecology and Economy*, Porto Venere, Italy.

Stern D. I. and R. K. Kaufmann (1997) Econometric analysis of global climate change, *MODSIM 97, International Congress on Modelling and Simulation*, Modelling and Simulation Society of Australia, 1367-1372.

**Edited Conference Proceedings (Editor)**

Stern D. I. (2000) *ISEE 2000. People and Nature: Operationalising Ecological Economics*, Final Program of the 6th Biennial Meeting of the International Society for Ecological Economics, The Australian National University, Canberra, Australia.

**Book Reviews**

Stern D. I. (2010) Book Review: T. Jackson (2009) Prosperity without Growth: Economics for a Finite Planet, *Ecological Economics* 69(5), 1190-1191.

Stern D. I. (2007) Book Review: M. Common and S. Stagl (2005) Ecological Economics: An Introduction, *Ecological Economics* 63(4), 829-830.

Stern D. I. (2004) Book Review: J. K. Boyce (2002) The Political Economy of the Environment, *International Journal of Social Economics* 31(4): 443-445.

Stern D. I. (2003) Book Review: M. Munasinghe, O. Sunkel, and C. de Miguel (eds.) (2001) The Sustainability of Long-term Growth: Socio-economic and Ecological Perspectives, *American Journal of Agricultural Economics* 85, 521-523.

Stern D. I. (2001) Book Review: S. Keen (2001) Debunking Economics, *Australian Journal of Environmental Management* 8, 246-247.

Stern D. I. (2001) Book Review: S. Keen (2001) Debunking Economics, *Ecological Economics* 39, 318-320.

Stern D. I. (1998) Book Note: A. Tylecote and J. van der Straaten (eds.) (1997) Environment,

Technology and Economic Growth: The Challenge to Sustainable Development, *Economic Journal*, 108, 1973-1974.

Stern D. I. (1998) Book Review: N. Rakover (1993) *Eykhut HaSvivah: Hebetim Mishpatiyim VeRa'ayoniyim BaMeqorot HaYehudiyim*, (Environmental Quality: Legal and Ideological Aspects in the Jewish Sources), *Ecological Economics* 26, 109-111.

Stern D. I. (1997) Book Review: J. C. J. M. Van den Bergh (1996) *Ecological Economics and Sustainable Development: Theory, Methods and Applications*, *Economic Journal*, 107, 1905-1907.

Stern D. I. (1997) Book Review: A. Eberhard and C. Van Horen (1995) *Poverty and Power: Energy and the South African State*, *Development Bulletin (Australian Development Studies Network)* 41, 96-96.

Stern D. I. and C. J. Cleveland (1992) Book Review: J. Rees (1990) *Natural Resources: Allocation, Economics and Policy*, 2nd edition, *Professional Geographer* 44, 122-123.

### **Republished Papers**

Stern D. I. (2015) Energy use and economic growth in the USA: a multivariate approach, *Energy Economics* 15, 137-150 (1993). Reprinted in: R. U. Ayres and S. Keen (eds.) *Energy and Economic Theory*, Edward Elgar, Cheltenham.

Stern D. I. and R. K. Kaufmann (2014) Estimates of global anthropogenic methane emissions 1860-1993, *Chemosphere* 33, 159-176 (1996), reprinted in: Stern D. I., F. Jotzo, and L. Dobes (eds.) *Climate Change and the World Economy*, Edward Elgar, Cheltenham.

Jotzo F., P. J. Burke, P. J. Wood, A. Macintosh, and D. I. Stern (2014) Decomposing the 2010 global carbon dioxide emissions rebound, *Nature Climate Change* 2(4), 213-214 (2012), reprinted in: Stern D. I., F. Jotzo, and L. Dobes (eds.) *Climate Change and the World Economy*, Edward Elgar, Cheltenham.

Stern D. I. (2008) The rise and fall of the environmental Kuznets curve, *World Development* 32(8), 1419-1439 (2004), reprinted in: C. Perrings (ed) *Ecological Economics*, Sage, Volume 4, Chapter 55, 53-80.

Stern D. I. (2008) Limits to substitution and irreversibility in production and consumption: a neoclassical interpretation of ecological economics, *Ecological Economics* 21, 197-215 (1997), reprinted in: C. Perrings (ed) *Ecological Economics*, Sage, Volume 2, Chapter 18, 1-27.

Stern D. I. (2008) The rise and fall of the environmental Kuznets curve, *World Development* 32(8), 1419-1439 (2004), reprinted in: J. Martinez-Alier and I. Røpke (eds.) *Recent Developments in Ecological Economics*, Edward Elgar, Cheltenham.

Stern D. I. (2007) Limits to substitution and irreversibility in production and consumption: a neoclassical interpretation of ecological economics, *Ecological Economics* 21, 197-215 (1997), reprinted in: J. C. J. M. van den Bergh, K. Button, and P. Nijkamp (eds.) *Environmental Planning*, Edward Elgar, Cheltenham.

Stern D. I. (2002) Progress on the environmental Kuznets curve? *Environment and Development Economics* 3, 173-196. (1998), Reprinted in: K. Gallagher, and J. Werksman

(eds.) *The Earthscan Reader on International Trade and Sustainable Development*, Earthscan, London.

Stern D. I. (2001) Progress on the environmental Kuznets curve? Summary of article originally published in *Environment and Development Economics* (1998), in: J. M. Harris, T. Wise, K. Gallagher, and N. Goodwin (eds.) *Sustainable Human and Economic Development*, Island Press, Washington DC.

Stern D. I. (1996) Energy use and economic growth in the USA: a multivariate approach, *Energy Economics* 15, 137-150 (1993). Reprinted in: R. Costanza, C. A. Perrings, and C. J. Cleveland (eds.) *The Development of Ecological Economics*, Edward Elgar, Cheltenham.

### ***Newspaper/Newsletter Articles***

Stern D. I., Z. Csereklyei, M. d. M. Rubio Varas (2014) Energy and economic growth: The stylized facts, *IAEE Energy Forum*.

Stern D. I. (2014) 'Censored' IPCC summary reveals jockeying for key UN climate talks, *The Conversation* 24<sup>th</sup> April.

Jotzo F. and D. I. Stern (2014) IPCC: Emissions cuts are about ethics as well as economics, *The Conversation* 14<sup>th</sup> April.

Stern D. I. (2012) Where is it cheapest to cut carbon emissions? *The Conversation* 4<sup>th</sup> September.

Jotzo F., A. Macintosh, D. I. Stern, P. Burke, and P. Wood (2012) The emissions rebound after the GFC: Why greenhouse gases went up in 2010, *The Conversation* 16<sup>th</sup> March.

Hay S. I., J. Cox, D. J. Rogers, S. E. Randolph, D. I. Stern, G. D. Shanks, M. F. Myers, and R. W. Snow (2002) East African highland malaria resurgence independent of climate change, *EANMAT Newsletter* 5(2), May 2002.

Common M. S. and D. I. Stern (1997) Greenhouse needs carbon tax, *Australian Financial Review*, Wednesday 26 February, 1997, p19.

### **Administration**

Director, International and Development Economics, Crawford School, 2015-2017.

Director, Research, Crawford School of Public Policy, 2012-2013.

Director, Economics Graduate Program, RPI, 2004-07.

Graduate program development officer, Department of Environmental Economics and Environmental Management, University of York, 1993-94.

### **Other Professional Activities**

2010- Research associate, Centre for Climate Economics and Policy, Crawford School, Australian National University.

2009- Research associate, Climate Change and Energy Program, Centre for Applied Macroeconomic Analysis, Australian National University.

2010-14 Lead author, IPCC Working Group III, 5th Assessment Report, Chapter 5: "Drivers, Trends, and Mitigation".

### **Selected Research Travel/Visits**

- 2016 Department of Economics, University of Kassel.
- 2014 Department of Economics, University of Kassel.
- 2014 Department of Economic History, Lund University.
- 2013 Department of Economic History, Lund University.
- 2010 Institute of Economic Research, Lund University.
- 2004 Department of Environmental Science, University of Lancaster.
- 2002 Woodrow Wilson School, Princeton University.
- 2000 Center for Energy and Environmental Studies, Boston University.
- 1995 Environment Department, University of York.

### **Teaching**

#### ***ANU 2011-***

- IDEC8011 Masters Research Essay – 1<sup>st</sup> Semester 2017 and 2018
- IDEC8053 Environmental Economics – 1<sup>st</sup> Semester 2018.
- IDEC8089 Energy Economics – 2<sup>nd</sup> Semester 2012 to 2017.
- EMDV8102 Research Methods – 1<sup>st</sup> Semester 2015. Co-taught with Keith Barney.  
Convener for RE&D pre-session program, Summer 2015.
- POGO8016 The Economic Way of Thinking I – 1<sup>st</sup> Semester 2011 to 2014.
- CRWF8000 Governments, Markets and Global Change – Each semester from 2<sup>nd</sup> Semester 2011 to 1<sup>st</sup> Semester 2013. Global change lectures.

#### ***Rensselaer Polytechnic Institute 2002-2007***

ECON1200, Introductory Economics; ECON2010, Managerial Economics;  
ECON4230/6230, Environmental Economics and Advanced Environmental Economics;  
ECON4250/6250, Ecological Economics and Advanced Ecological Economics.

#### ***Boston University 1991-1996***

EE504, International Environmental and Resource Management; GG102, Introduction to Human Geography: The Cultural Landscape; GG201, World Regional Geography: The Old World; GG304, Alternative Energy and Environmental Futures; GG101, Natural Environments: The Atmosphere.

### **Student Advising**

#### ***PhD, ANU 2009- Present:***

Primary: Alrick Campbell, Panittra Ninpanit. Panel: Paul Burke, Hyung-Sup Lee, Mohammed Shahiduzzaman (USQ), Stephan Bruns (Friedrich-Schiller-Universität Jena), Rohan Best, Anil Kavuri, Akshay Shanker, Tony Wiskich.

#### ***PhD, Rensselaer Polytechnic Institute 2002-2007:***

Primary: Chunbo Ma. Primary advisor for part of PhD: Ran Zhang, Sung Kim. Also a member of several other committees.

#### ***PhD, ANU 1996-2002:***

Primary advisor for part of PhD: Simon Niemeyer, Rosemary James, and Ross Lambie. Panel: Muhammad Akmal, Robin Connor.

**Other PhD Examination Committees:**

University of New South Wales, University of Cape Town, Australian National University, University of Umeå, University of Sydney, and Boston University.

**ANU Masters 1996-Present :**

Qiaozian He, Xinyi Zhang, Monica Philalay, Zhen Xu, Qin Yang, Jeremy van Dijk, Luis Sanchez, Dong Wang, Robert DeFilippi, Jack Gregory, Karin Cooke, Tony Auld.

**Refereeing**

**Journals:** *African Journal of Agricultural Research, Agricultural and Resource Economics Review, Agricultural Economics, American Journal of Agricultural Economics, American Political Science Review, Annals of Regional Science, Annals of the New York Academy of Sciences, Applied Economics, Area, Asian-Pacific Economic Literature, Asia Pacific Policy Studies, Atmospheric Environment, Atmospheric Science Letters, Australian Economic, Australian Journal of Environmental Management, Australian Journal of Agricultural and Resource Economics, BMC Ecology, Bulletin of Indonesian Economic Studies, Climate Policy, Climatic Change, Climatic Change Letters, Comparative Political Studies, Computational Statistics and Data Analysis, Contemporary Economic Policy, Earth System Dynamics, Eastern Economic Journal, Ecological Economics, Annals of the New York Academy of Sciences: Ecological Economics Reviews, Economic Analysis and Policy, Economic Geography, Economic History Review, Economic Inquiry, Economic Modelling, Economic Papers, Economics Bulletin, Economics: The Open Access Open Assessment Journal, Ecosystem Services, Empirical Economics, Energy Economics, Energy Journal, Energy Policy, Environmental and Ecological Statistics, Environmental and Resource Economics, Environmental Economics and Policy Studies, Environmental Management, Environmental Modelling and Software, Environmental Research Letters, Environmental Science & Technology, Environment and Development Economics, Environment and Planning A, Environment International European Economic Review, European Review of Economic History, Geographical and Environmental Modelling, Global Environmental Change, International Economic Review, International Journal of Climatology, International Journal of Environment and Pollution, International Journal of Environmental Research and Public Health, International Journal of Sustainable Development, Journal of Applied Econometrics, Journal of Applied Economics, Journal of Bioeconomics, Journal of Cleaner Production, Journal of Development Economics, Journal of Econometrics, Journal of Economic Behavior and Organization, Journal of Economic Growth, Journal of Economic Surveys, Journal of Environmental Economics and Management, Journal of Environmental Economics and Policy, Journal of Environmental Management, Journal of Environment and Development, Journal of Forest Economics, Journal of Industrial Ecology, Journal of Informetrics, Journal of International Trade & Economic Development, Journal of Productivity Analysis, Journal of Public Economics, Macroeconomic Dynamics, Nature, Nature Climate Change, Nature Energy, New Zealand Economic Papers, OPEC Energy Review, Oxford Bulletin of Economics and Statistics, Oxford Economic Papers, Papers in Regional Science, Physica A, PLOS ONE, Portuguese Economic Journal, Proceedings of the National Academy of Sciences, Progress in Development Studies, Resource and Energy Economics, Review of Agricultural and Environmental Studies, Review of Economics and Statistics, Scientific Reports, Scientometrics, Social Science Quarterly, Southern Economic*

*Journal, Structural Change and Economic Dynamics, Tellus B, Theoretical and Applied Climatology, Urban Studies, World Development.*

**Book Chapters:** Cambridge University Press, Edward Elgar, World Resources Institute.

**Book Publishers:** World Resources Institute, Edward Elgar, Addison-Wesley, Elsevier, Palgrave-Macmillan, Routledge, Springer.

**Research Funding:** Social Science and Humanities Research Council of Canada, U.S. National Science Foundation, Research Promotion Foundation of the Republic of Cyprus, Australian Research Council, Israel Science Foundation, and Ring Center for Interdisciplinary Research, Hebrew University of Jerusalem.

**Reports:** Great Barrier Reef Marine Park Authority, U.S. Environmental Protection Agency, Climate Institute/Vivid Economics, The Grantham Research Institute on Climate Change and the Environment.

**Tenure and Promotion, Program, and Research Assessment:** Eight universities, Australian Research Council.

### **Blogging**

Stochastic Trend Blog: <http://stochastictrend.blogspot.com>. Recognized as a Top 100 Economics Blog for 2016 (99<sup>th</sup>): <https://www.intelligenteconomist.com/top-economics-blogs-2016/>

### **Conference Organization**

Lead member of the organizing committee of ISEE 2000 biennial conference in Canberra. Member of organizing committee of ISEE 1996 biennial conference in Boston.

### **Selected External Presentations**

*How to Count Citations*, Chair of Statistics, University of Göttingen, 11 December 2017. Seminar.

*The Role of Energy in the Industrial Revolution and Modern Economic Growth*, Maria de Maetzu Seminar Series, Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona, 5 December 2017. Public lecture.

*The Impact of Electricity on Economic Development: A Macroeconomic Perspective*, International Association for Energy Economics, 40th International Conference, Singapore, 19-21 June 2017. Contributed paper.

*From Wood to Coal: Directed Technological Change and the British Industrial Revolution*, School of Economics, University of Sydney, 6 April 2017. Seminar.

*Economic Growth and Global Particulate Pollution Concentrations*. Australian Agricultural and Resource Economics Society, 61<sup>st</sup> Annual Conference, Brisbane, 8-10 February 2017. Contributed paper.

*The Impact of Electricity on Economic Development: A Macroeconomic Perspective*, Energy for Economic Growth Research and Matchmaking Conference, Center for Strategic and International Studies, Washington, DC, 3 November 2016. Invited paper.

*Directed Technological Change and Energy: Lessons from Economic History*, Centre for Transformative Innovation, Swinburne University of Technology, 6 October 2016. Seminar.

*From Wood to Coal: Directed Technological Change and the British Industrial Revolution*, UWA Business School, University of Western Australia, 9 September 2016. Seminar.

*From Wood to Coal: Directed Technological Change and the British Industrial Revolution*, School of Economics and Finance, Curtin University of Technology, 8 September 2016. Seminar.

*From Wood to Coal: Directed Technological Change and the British Industrial Revolution*, Department of Economics, Deakin University, 7 September 2016. Seminar.

*Directed Technological Change and Energy: Lessons from Economic History*, International Exergy Economics Workshop, University of Sussex, 15 July 2016. Invited keynote paper.

*Directed Technological Change and Energy*, The Economics of Energy and Secular Stagnation, Conference organized by the Chair of Energy and Prosperity, Ecole Normale Supérieure, Paris, 27 April 2016. Invited keynote paper.

*Drivers of Industrial and Non-Industrial Greenhouse Gas Emissions?* Workshop: Managing the Transition to a Sustainable Economy: Some Insights from an Evolutionary Perspective, Griffith University, Brisbane, 22 October 2015. Invited paper.

*Directed Technical Change and the British Industrial Revolution*. School of Economics, University of Queensland, 3 September 2015. Seminar.

*Long-Run Estimates of Interfuel and Interfactor Elasticities*. 34<sup>th</sup> International Energy Workshop, Abu Dhabi, 3-5 June 2015. Contributed paper.

*Does Energy Consumption Drive Economic Growth? A Meta-Analysis*. 38<sup>th</sup> Annual International IAEE Meeting, Antalya, 27 May 2015. Contributed paper.

*Directed Technical Change, Energy, and the British Industrial Revolution*. Australian Agricultural and Resource Economics Society, 59<sup>th</sup> Annual Conference, Rotorua, 13 February 2015. Contributed paper.

*Modeling the Emissions-Income Relationship Using Long-Run Growth Rates*. Department of Economics, University of Kassel, 18 November 2014. Seminar.

*Energy and Economic Growth: The Stylized Facts*. Department of Economic History, Lund University, 12 November 2014. Seminar.

*Energy Transitions and the Industrial Revolution*. Grantham Research Institute for Climate Change, London School of Economics, 28 October 2014. Seminar.

*What Drives Estimates of Mitigation Costs?* IAEE Asia Conference Beijing 20 September 2014. Invited plenary paper.

*New Estimates of Interfuel and Interfactor Elasticities of Substitution for China*. ANU-Tsinghua Workshop, Beijing 15 September 2014. Invited paper.

*Rethinking the Emissions-Income Relationship in Terms of Growth Rates*. World Congress of Environmental and Resource Economics, Istanbul, 28 June-2 July 2014. Contributed paper.

*Integrating the IPAT, Environmental Kuznets Curve, and Emissions Convergence Models Using Long-Run Growth Rates*. 6<sup>th</sup> Atlantic Workshop on Energy and Environmental Economics, A Toxa, Galicia, Spain 25-26 June 2014. Contributed paper.



*Energy and Economic Growth: The Stylized Facts*. 37<sup>th</sup> Annual International IAEE Meeting, New York, 15 June 2014. Contributed paper.

*Rethinking the Emissions-Income Relationships in Terms of Growth Rates*. Australian Agricultural and Resource Economics Society, 58<sup>th</sup> Annual Conference, Port Macquarie, 6 February 2014. Contributed paper.

*Identifying the Effect of the Elasticity of Substitution on the Rate of Economic Growth*. Australia New Zealand Society for Ecological Economics, Canberra, 14 November 2013. Contributed paper.

*Robust Granger Causality Testing of the Effect of Natural and Anthropogenic Radiative Forcings on Global Temperature*. 1<sup>st</sup> International Workshop on Econometric Applications in Climatology, Guelph, 6 June 2013. Contributed paper.

*Economics of Climate Change: Trends, Drivers, and Mitigation*. Wirtschaftsuniversität Wien, 12 November 2012. Seminar.

*Energy and Economic Growth: The Stylized Facts*. School of Agricultural and Resource Economics, University of Western Australia, Perth, 21 September 2012. Seminar.

*Does Energy Use Cause Economic Growth or Vice Versa?* 2012 MAER-Net Colloquium, Perth, 19 September 2012. Contributed paper.

*Energy and Economic Growth: The Stylized Facts*. 35<sup>th</sup> Annual International IAEE Meeting, Perth, 26 June 2012. Contributed paper.

*From Correlation to Granger Causality*. Annual Institute on Joint Outcomes related to Sustainability Capstone Conference, University of Michigan, Ann Arbor MI, 29-30 September 2011. Invited paper.

*Economy-wide Comparison of Mitigation Costs*. International Workshop on Equity, Sustainability, and Climate Change, CSTS-TISS (Tata Institute for Social Sciences), New Delhi 12-13 August 2011. Invited paper.

*The Role of Energy in the Industrial Revolution and Modern Economic Growth*. Korea Energy Economics Institute, Seoul, 18 July 2011. Seminar.

*The Role of Energy in Long-Run Economic Growth*. Department of Economic History, University of Lund, 8 September 2010. Seminar.

*Energy Intensity Modelling and Emissions Targets Analysis*. International Division, Department of Climate Change and Energy Efficiency, 1 April 2010. Seminar.

*Australian Energy Efficiency in Context*. Prime Minister's Taskforce on Energy Efficiency, Department of Climate Change, 2 March 2010. Seminar.

*Modelling the Global Diffusion of Sulfur- and Energy- Efficiency*. Discipline of Economics, Faculty of Agriculture, Food & Natural Resources, University of Sydney, 26 March 2009. Invited seminar.