




## Charles Kolstad

Senior Fellow at the Stanford Institute for Economic Policy Research and at the Precourt Institute for Energy, Emeritus

Policy Institutes

 Curriculum Vitae available Online

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### Bio

#### BIO

Prof. Charles D. Kolstad, is an energy and environmental economist with a focus on energy markets, regulation, and climate change (mitigation, adaptation and impacts). (Note: Environmental Economics is the branch of economics concerned with the intersection between economic activity and the environment, broadly defined.) He has published extensively in environmental and resources economics over the past four decades, including work in understanding uncertainty, randomness and learning in climate decisions and regulation, estimating damage from climate change, coal and electricity markets, international trade and pollution havens, and tax competition. He has also authored a leading advanced economics textbook (Environmental Economics), in use worldwide and translated into Spanish, Japanese and Chinese.

Prof. Kolstad has been a Lead Author and a Convening Lead Author for the IPCC (co-recipient of the 2007 Nobel Peace Prize), is a founding editor of the journal Review of Environmental Economics & Policy and has served on many advisory boards. He is a former president of the Association of Environmental and Resource Economists (AERE).

Prof. Kolstad joined the faculty of Stanford in 2012, following a career at the University of California in Santa Barbara, and the University of Illinois in Urbana-Champaign. At Stanford, he has been affiliated with the Department of Economics, the Stanford Institute for Economic Policy Research (SIEPR) and the Doerr School of Sustainability (Precourt and Woods Institutes).

Prof. Kolstad is currently Senior Fellow Emeritus at Stanford University and Distinguished Professor Emeritus at the University of California in Santa Barbara. He continues to write, speak, teach and conduct research.

#### ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Policy Institutes

#### ADMINISTRATIVE APPOINTMENTS

- Faculty Co-Director, Bits and Watts Initiative, Precourt institute, Stanford, (2017-2021)
- Co-Director, University of California Center for Energy and Environmental Economics (UCE3), (2009-2012)
- Chairperson, Department of Economics, University of California at Santa Barbara, (2008-2011)

#### HONORS AND AWARDS

- Fellow, Association of Environmental and Resource Economists (AERE) (2009)
- Fellow, Munich Society for the Promotion of Economic Research (CES) (2009)

- Research Associate, National Bureau of Economic Research (NBER) (2007)
- University Fellow, Resources for the Future (2002)
- President, Association of Environmental and Resource Economists (AERE) (2001-2003)
- University Scholar, University of Illinois (1990)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- President, Association of Environmental and Resource Economists (2001 - 2003)

## **PROFESSIONAL EDUCATION**

- PhD, Stanford University , Economics & Operations Research (EES & Econ) (1982)
- MA, University of Rochester , Math (1973)
- B.S. (High Honors), Bates College , Math and Physics (1969)

## **LINKS**

- Kolstad Hi Res Photo @ Berkeley: <https://web.stanford.edu/~ckolstad/HmPg/Kolstad.Berkeley.jpg>
- Textbook Info: <https://web.stanford.edu/~ckolstad/HmPg/Textbooks.pdf>
- Info for Prospective PhD Students: <https://web.stanford.edu/~ckolstad/HmPg/InfoPhD.htm>
- IPCC AR5, WGIII, Chapter 3: [https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_wg3\\_ar5\\_chapter3.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter3.pdf)
- Kolstad Hi Res Photo @ SEEPAC event: <https://web.stanford.edu/~ckolstad/HmPg/Kolstad.SEEPACReception.2015.jpg>
- Kolstad Hi Res Photo @ UCLA: <https://web.stanford.edu/~ckolstad/HmPg/Kolstad.UCLA.jpg>
- Info for Prospective Postdocs: <https://web.stanford.edu/~ckolstad/HmPg/Postdocs.pdf>

## **Research & Scholarship**

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### **CURRENT RESEARCH AND SCHOLARLY INTERESTS**

My research interests are broadly in environmental economics and related areas of industrial organization and public economics. My policy-related focus within these fields is climate change and energy markets.

I currently have several projects related to uncertainty and learning in strategic contexts regarding the provision of public goods. For the most part, the application is international environmental agreements. This work is primarily theoretical, though with some empirical and experimental work to validate and illuminate theory. I also have research interests in energy economics (particularly regulation) and other dimensions of the economics of climate change.

As an emeritus faculty member, I do work with new PhD students who wish to study with me. Typically, my students train to be environmental or resource economists, which means they receive strong training in economics. Strong preparation in math is essential.

## **Teaching**

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### **COURSES**

#### **2022-23**

- Environmental Economics and Policy: OSPOXFRD 49 (Win)

## Publications

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### PUBLICATIONS

- **Cedric Klapisch (Director): Back to Burgundy (Ce qui nous lie) (Book Review)** *JOURNAL OF WINE ECONOMICS*  
Book Review Authored by: Kolstad, C. D.  
2023
- **The economics of saignee in winemaking** *JOURNAL OF WINE ECONOMICS*  
Costello, C., Deschenes, O., Kolstad, C., Plantinga, A. J., Thomas, T.  
2023
- **Estimating the Economic Impacts of Climate Change Using Weather Observations** *REVIEW OF ENVIRONMENTAL ECONOMICS AND POLICY*  
Kolstad, C. D., Moore, F. C.  
2020; 14 (1): 1–24
- **WILLIAM NORDHAUS: A PIONEER** *CLIMATE CHANGE ECONOMICS*  
Kolstad, C. D.  
2020; 11 (4)
- **Reforming the U.S. coal leasing program.** *Science*  
Gillingham, K., Bushnell, J., Fowlie, M., Greenstone, M., Kolstad, C., Krupnick, A., Morris, A., Schmalensee, R., Stock, J.  
2016; 354 (6316): 1096-1098
- **CLIMATE ECONOMICS. Opportunities for advances in climate change economics.** *Science*  
Burke, M., Craxton, M., Kolstad, C. D., ONDA, C., Allcott, H., Baker, E., Barrage, L., Carson, R., Gillingham, K., Graff-Zivin, J., Greenstone, M., Hallegatte, S., Hanemann, et al  
2016; 352 (6283): 292-293
- **CLIMATE CHANGE. The IPCC at a crossroads: Opportunities for reform.** *Science*  
Carraro, C., Edenhofer, O., Flachsland, C., Kolstad, C., Stavins, R., Stowe, R.  
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- **Environmental economics. An economic perspective on the EPA's Clean Power Plan.** *Science*  
Fowlie, M., Goulder, L., Kotchen, M., Borenstein, S., Bushnell, J., Davis, L., Greenstone, M., Kolstad, C., Knittel, C., Stavins, R., Wara, M., Wolak, F., Wolfram, et al  
2014; 346 (6211): 815-816
- **Social Economic and Ethical Concepts and Methods** *Climate Change 2014: Mitigation of Climate Change*  
Kolstad, C. D., et al  
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- **Bridging Reality and the Theory of International Environmental Agreements** *Climate Change and Common Sense: Essays in Honour of Tom Schelling*  
Kolstad, C. D.,  
Oxford University Press.2012: 61–74
- **Regulatory Choice with Pollution and Innovation** *The Design and Implementation of US Climate Policy*  
Kolstad, C.  
University of Chicago Press.2012: 65–74
- **Economic impacts of climate change on California agriculture** *CLIMATIC CHANGE*  
Deschenes, O., Kolstad, C.  
2011; 109: 365-386
- **Uncertainty, Learning and Heterogeneity in International Environmental Agreements** *ENVIRONMENTAL & RESOURCE ECONOMICS*  
Kolstad, C. D., Ulph, A.  
2011; 50 (3): 389-403
- **Intermediate Environmental Economics**  
Kolstad, C. D.

Oxford University Press.2011

- **Who Pays a Price on Carbon?** *ENVIRONMENTAL & RESOURCE ECONOMICS*  
Grainger, C. A., Kolstad, C. D.  
2010; 46 (3): 359-376
- **Environmental Economics**  
Kolstad, C. D.  
Oxford University Press.2010
- **Distribution and Climate Change Policies** *Climate Change Policies: Global Challenges and Future Prospects*  
Kolstad, C. D., Grainger, C.  
2010
- **Equity, Heterogeneity and International Environmental Agreements** *B E JOURNAL OF ECONOMIC ANALYSIS & POLICY*  
Kolstad, C. D.  
2010; 10 (2)
- **Is a Cap-and-Trade System a Disguised Tax?** *Harvard College Economics Review*  
Kolstad, C. D.  
2009; 3 (2): 22-23
- **Restructuring Federal Climate Research to Meet the Challenges of Climate Change**  
Kolstad, C. D., Ramanathan, V., et al  
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- **Less Traffic, A Better Life** *Sacramento Bee*  
Kolstad, C. D.  
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- **A Statement on the Appropriate Role for Research and Development in Climate Policy** *The Economists' Voice*  
Arrow, K., Cohen, L. R., David, P. A., Hahn, R. W., Kolstad, C. D., Lane, L. L., Montgomery, W. D., Nelson, R. R., Noll, R. G., Smith, A. E.  
2009; 6 (1)
- **When Carbon is Priced, Who Ultimately Pays?** *VOX*  
Kolstad, C. D.  
2009
- **Learning and international environmental agreements** *CLIMATIC CHANGE*  
Kolstad, C., Ulph, A.  
2008; 89 (1-2): 125-141
- **Beyond the Market Advisory Committee: Proceedings from a Workshop held at Stanford University**  
Kolstad, C. D., Ahoobim, O., Burger, N., Crainger, C., MacRae, S.  
2008
- **Researching preferences, valuation and hypothetical bias** *ENVIRONMENTAL & RESOURCE ECONOMICS*  
Guzman, R. M., Kolstad, C. D.  
2007; 37 (3): 465-487
- **Systematic uncertainty in self-enforcing international environmental agreements** *JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT*  
Kolstad, C. D.  
2007; 53 (1): 68-79
- **Prescriptive Environmental Regulations versus Market - Based Incentives** *Moving to Markets in Environmental Regulation*  
Kolstad, C. D., Freeman, J.  
Oxford University Press.2007
- **Evaluating Progress of the U.S. Climate Change Science Program: Methods and Preliminary Results**  
Kolstad, C. D., Ramanathan, V., et al

National Academies Press.2007

- **Learning and climate change** *CLIMATE POLICY*  
O'Neill, B. C., Crutzen, P., Gruebler, A., Duong, M. H., Keller, K., Kolstad, C., Koomey, J., Lange, A., Obersteiner, M., Oppenheimer, M., Pepper, W., Sanderson, W., Schlesinger, et al  
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- **Interpreting Estimated Environmental Kuznets Curves for Greenhouse Gases** *The Journal of Environment & Development*  
Kolstad, C. D.  
2006; 15: 42-49
- **Adjustment costs from environmental change** *JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT*  
Kelly, D. L., Kolstad, C. D., Mitchell, G. T.  
2005; 50 (3): 468-495
- **Piercing the veil of uncertainty in transboundary pollution agreements** *International Conference on Risk and Uncertainty in Environmental and Resource Economics*  
Kolstad, C. D.  
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- **The Simple Analytics of Greenhouse Gas Intensity Reduction Targets** *Energy Policy*  
Kolstad, C. D.  
2005; 33: 2231-2236
- **The Economics of Climate Policy** *Handbook of Environmental Economics*  
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- **Climate Change Policy Viewed from the U.S. A. and the Role of Intensity Targets** *Emissions Trading for Climate Policy : US and European Perspectives*  
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- **Comment on 'Environmental Policy and Firm Behavior: Abatement Investment and Location Decisions under Uncertainty and Irreversibility' by Anastasios Xepapadeas** *Behavioral and Distributional Effects of Environmental Policy*  
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- **COP6: Observations of an Interested Bystander** *Energy Policies and Markets: New Trends or Old Cycles?*  
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- **Solving Infinite Horizon Growth Models with an Environmental Sector** *Computational Economics*  
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- **Valuing beach recreation lost in environmental accidents** *JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT-ASCE*  
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- **Spatial Environmental and Resource Economics: Selected Essays of Charles D. Kolstad**  
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- **Information and the divergence between willingness to accept and willingness to pay** *JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT*  
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- **Bayesian learning, growth, and pollution** *JOURNAL OF ECONOMIC DYNAMICS & CONTROL*  
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- **Integrated Assessment Models for Climate Change Control** *International Yearbook of Environmental and Resource Economics 1999/2000: A Survey of Current Issues*  
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- **Fundamental irreversibilities in stock externalities** *JOURNAL OF PUBLIC ECONOMICS*  
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1996; 60 (2): 221-233
- **Environment and Trade: A Review of Theory and Issues** *University of California, Santa Barbara, Department of Economics Working Paper 02-96*  
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1996
- **The Implications of Learning About Uncertainty for United States/European Greenhouse Gas Policy** *Environmental Policy with Political and Economic Integration*  
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- **The Climate Change Footprint: Will We See It Before It Is Upon Us?** *IIASA*

- Kolstad, C. D.  
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Goldberg, L. S., Kolstad, C. D.  
1995; 36 (4): 855-873
  - **Normas Anticontaminación: Enfoques Pasados e Innovaciones," [Regulating Pollution: Past Approaches and Innovations]** *Economía del Medio Ambiente en América Latina [ The Economics of Ambient Environment in Latin America ]*  
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  - **IS TECHNICAL CHANGE EMBODIED IN THE CAPITAL STOCK OR NEW INVESTMENT** *JOURNAL OF PRODUCTIVITY ANALYSIS*  
Lee, J. K., Kolstad, C. D.  
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  - **HOTELLING RENTS IN HOTELLING SPACE - PRODUCT DIFFERENTIATION IN EXHAUSTIBLE RESOURCE MARKETS** *JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT*  
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  - **Comment on 'Energy Demand and Supply in the Developing World 1990 - 2020,' by Churchill** *Proceedings 1993 World Bank Annual Conference on Development Economics*  
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  - **The Timing of CO2 Control in the Face of Uncertainty and Learning** *International Environmental Economics*  
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  - **George Bush vs. Al Gore: Irreversibilities in Greenhouse Gas Accumulation and Emission Control Investment** *Energy Policy* ,  
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  - **Mitigating Climate Change Impacts: The Conflicting Effects of Irreversibilities in CO2 Accumulation and Emission Control Investment** *IIASA*  
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  - **THE SPECIFICATION OF DYNAMICS IN COST FUNCTION AND FACTOR DEMAND ESTIMATION** *REVIEW OF ECONOMICS AND STATISTICS*  
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  - **Environmental Protection and Economic Reform in Russia** *EPAT/MUCIA Policy Brief*  
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  - **The Law and Economics of Hazardous Materials Transportation: Regulating Harm by Administrative Agency and by Tort Liability** *Transportation of Hazardous Materials: Issues in Law, Social Science and Engineering*  
Kolstad, C. D., Ulen, T.  
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  - **Measuring the Energy Efficiency and Productivity Impacts of Embodied Technical Change** *Energy Journal*  
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  - **Looking vs. Leaping: The Timing of CO2 Control in the Face of Uncertainty and Learning** *IIASA*  
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  - **Natural Resource Use and the Environment** *Handbook of Natural Resources and Energy Economics*  
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- **Buying Energy and Non-Fuel Minerals: Final, Derived and Speculative Demand** *Handbook of Natural Resources and Energy Economics* ,  
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1993
- **Efficiency and the Non-enforcement of Penalties** *Hoover Institution Working Paper E-92-2*  
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1992
- **From Stalin to Yeltsin: Perestroika in US Environmental Policy**  
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1992
- **COMPUTING COURNOT-NASH EQUILIBRIA** *OPERATIONS RESEARCH*  
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- **Book Review: Recent Modelling Approaches in Applied Energy Economics** *Energy Journal*  
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- **Environmental Demand Theory** *Measuring the Demand for Environmental Quality*  
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- **Acid Deposition Regulation and the U.S. Coal Industry** *Energy Policy*  
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- **Measuring the Demand for Environmental Improvement** *Illinois Department of Energy and Natural Resources Report ILENR/RE - EA - 89/16*  
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- **Measuring Relative Market Power in the Western US Coal Market Using Shapley Values** *Resources and Energy*  
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- **A Review and Economic Analysis of Reasonably Available Control Technology (RACT) Regulations for Emissions of Volatile Organic Material in Illinois and Seven Other States** *Institute for Environmental Studies Report, University of Illinois, Urbana, Illinois*

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## PRESENTATIONS

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- 50 Year Retrospective: Costs of Climate Change - AAAS/Carnegie Institution Symposium (10/29/2015 - 10/29/2015)
- The Papal Encyclical as it Relates to IPCC Findings - Pontifica Catolica Universidad Chile