

Da Zhang

Curriculum Vitae

Address

Joint Program on the Science and Policy of Global Change
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Current Position and Affiliations

Research Scientist, Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, since 07/2017.

Academic and Professional Experience

Postdoctoral Associate, Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, 06/2014 – 06/2017
Intern, Energy Research Institute, National Development and Reform Commission, Beijing, China, 04/2010 – 06/2010.
Intern, Sino-Danish Renewable Energy Development Program / National Renewable Energy Center, 10/2010 – 09/2011.
Intern, Northern Light Venture Capital Company, Beijing, China, 07/2010 – 10/2010.

Education

Ph. D., Institute of Energy, Environment and Economy, Tsinghua University, China, 06/2014.
Visiting student, Chair of Economics / Energy Economics, Department of Management, Technology, and Economics D-MTEC, ETH Zurich, 06/2013 - 08/2013.
Visiting student, Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, 01/2012 - 01/2013.
B.S., Industrial Engineering, Tsinghua University, China, 06/2009.

Research Interest

Energy and environmental economics, energy system modeling, applied general equilibrium modeling, organizational economics

Publications (Google Citations: 626, h-index: 13)

Selected Publications

Rausch, Sebastian, Da Zhang* (corresponding author). Capturing natural resource heterogeneity in top-down energy-economic equilibrium models. *Energy Economics* (2018), *in press*.

Li, Mingwei#, Da Zhang# (co-first author), Chiao-Ting Li, Kathleen M. Mulvaney, Noelle E. Selin, Valerie J. Karplus. Air quality co-benefits of carbon pricing in China. *Nature Climate Change* (2018), 8: 398–403.

Weng, Yuyan, Da Zhang* (corresponding author), Lanlan Lu, Xiliang Zhang*. A general equilibrium analysis of floor prices for China's national carbon emissions trading system. *Climate Policy* (2018), *in press*.

Zhang, Da* (corresponding author), Justin Caron, Niven Winchester. Sectoral aggregation bias in the accounting of emissions embodied in trade and consumption. *Journal of Industrial Ecology* (2018), *in press*.

Zhang, Xu, Xunmin Ou, Xi Yang, Tianyu Qi, Kyung-Min Nam, Da Zhang, Xiliang Zhang. Socioeconomic burden of air pollution in China: Province-level analysis based on energy economic model. *Energy Economics* (2017), 68: 478-489.

Davidson, Michael R. #, Da Zhang# (co-first author), Weiming Xiong, Xiliang Zhang, Valerie J. Karplus. Modelling the potential for wind energy integration on China's coal-heavy electricity grid. *Nature Energy* (2016), 1 ([Nature Energy Editors' picks from 2016](#)).

Zhang, Da, Marco Springmann, Valerie J. Karplus. Equity and emissions trading in China. *Climatic Change* (2016), 134: 131-146.

Karplus, Valerie J., Sebastian Rausch, Da Zhang*. Energy caps: Alternative climate policy instruments for China? *Energy Economics* (2016), 56: 422–431.

Zhang, Xiliang, Valerie J. Karplus, Tianyu Qi, Da Zhang, Jiankun He. Carbon emissions in China: How far can new efforts bend the curve? *Energy Economics* (2016) 54: 388–395.

Luo, Xiaohu, Justin Caron, Valerie J. Karplus, Da Zhang, Xiliang Zhang. Interprovincial Migration and the Stringency of Energy Policy in China. *Energy Economics* (2016), 58: 164-173.

Qi, Tianyu, Niven Winchester, Valerie J. Karplus, Da Zhang, Xiliang Zhang. An analysis of China's climate policy using the China-in-Global Energy Model. *Economic Modelling* (2016), 52, Part B: 650–660.

Springmann, Marco, Da Zhang, Valerie J. Karplus. Consumption-Based Adjustment of China's Emissions-Intensity Targets: An Analysis of its Potential Economic Effects. *Environmental and Resource Economics* (2015), 61: 615–640.

Zhang, Da, Valerie J. Karplus, Cyril Cassica, Xiliang Zhang. Emissions Trading in China: Progress and Prospects. *Energy Policy* (2014), 75: 9–16.

Paul Kishimoto, Da Zhang, Valerie J. Karplus. Modeling regional transportation demand in China and the impacts of a national carbon constraint. *Journal of the Transportation Research Board* (2014).

Zhang, Da, Sebastian Rausch, Valerie J. Karplus, Xiliang Zhang. Quantifying regional economic impacts of CO₂ intensity targets in China. *Energy Economics* (2013), 40: 687-701.

Other Peer-reviewed Publications

Kwon, Sae Yun, Noelle E. Selin, Amanda Giang, Valerie J. Karplus, and D. Zhang. Present and future

mercury concentrations in Chinese rice: Insights from modeling. *Global Biogeochemical Cycles* (2018), 32(3): 437-462.

Zhu, Zhao, Da Zhang* (corresponding author), Peggy Mischke, Xiliang Zhang. Electricity generation costs of concentrated solar power technologies in China based on operational plants. *Energy* (2015), 89: 65–74.

Zhang, Da, Weiming Xiong, Chun Tang, Zhen Liu, Xiliang Zhang. Determining the appropriate amount of subsidies in wind power: The Integrated Renewable Power Planning (IRPP) model and its application in China. *Sustainable Energy Technologies and Assessments* (2014), 6: 141-148.

Zhang, Da, Qimin Chai, Xiliang Zhang, Jiankun He, Li Yue, Xiufen Dong, Shu Wu. Economical assessment of large-scale photovoltaic power development in China. *Energy* (2012), 40: 370-375.

Zhang, Da, Songlin Tang, Bao Lin, Zhen Liu, Xiliang Zhang. Co-benefit of polycrystalline large-scale photovoltaic power in China. *Energy* (2012), 41: 436-442.

Zhang, Da, Xiliang Zhang, Jiankun He, Qimin Chai. Offshore wind energy development in China: Current status and future perspective. *Renewable and Sustainable Energy Reviews* (2011), 15: 4673–4684.

He, Jiankun, Zhiwei Yu, Da Zhang. China's strategy for energy development and climate change mitigation. *Energy Policy* (2012), 53: 7–13.

Working Papers

Zhang, Da, Qin Zhang, Shaozhou Qi, Jinpeng Huang, Valerie J. Karplus, Xiliang Zhang. Integrity of Firm Emissions Reporting in China's Early Carbon Markets. *Revise and resubmit (2nd round)*, Nature Climate Change.

Karplus, Valerie J., Xingyao Shen, Da Zhang*. Explaining variation in firm compliance behavior under a large-scale Chinese energy efficiency program. *Revise and resubmit*, the Energy Journal.

Karplus, Valerie J., Yasheng Huang, Da Zhang*. State Control as a Substitute for Environmental Regulation: Evidence from Chinese Cities. *Revise and resubmit*, Regulation and Governance.

Zhang, Da*, Sebastian Rausch. Capturing Natural Resource Heterogeneity in Top-Down Energy-Economic Equilibrium Models. *Revise and resubmit*, Energy Economics.

Filippini, Massimo, Thomas Geissmann, Valerie J. Karplus, Da Zhang. A Green Bargain? The Impact of an Energy Saving Program on Productivity Growth in China's Iron and Steel Industry. MIT Center for Energy and Environmental Policy Research Working Paper 2017-005.

Ongoing research

Karplus, Valerie J., Da Zhang. Management and energy efficiency in a Chinese manufacturing cluster.

Karplus, Valerie J., Thomas Geissmann, Da Zhang. Management and Productivity in Chinese Firms.

Zhang, Da, Lin Zhang. Share of polluting input as a sufficient statistic for burden sharing.

Zhang, Da, Michael R. Davidson, Xi Lu, Valerie J. Karplus. Grid-connected potential of China's wind and solar energy.

Zhang, Da, Xiliang Zhang, Shuxiao Wang, and et al. Integrated assessment of alternative national emissions market designs in China.

Zhang, Da, Shaojun Zhang, Ye Wu, and et al. Behavior changes and fuel efficiency: Evidence from a large data set of Chinese private car drivers.

Zhang, Da, Shaojun Zhang, Ying Cheng, Ye Wu, and et al. Self-control and fuel efficiency: Experiment results from Beijing bus drivers.

Research Projects

Co-Investigator, “Management and energy efficiency in a Chinese manufacturing cluster” (jointly with Valerie J. Karplus), multiple funding sources to support a firm-level field experiment (~\$150,000), since 03/2016.

Key Person, “Technical Assistance: Developing Cost-Effective Policies and Investments to Achieve Climate and Air Quality Goals in the Beijing– Tianjin–Hebei Region”, funded by Asian Development Bank (\$597,785), since 10/2016.

Key Person, “Tsinghua-MIT China Energy and Climate Project”, funded by multiple sponsors (~\$500,000 annually), 10/2011-10/2016.

Key Person, “Analysis of Potential Areas for Danish-Chinese R&D Cooperation within Innovative Renewable Energy (RE) Technologies” (jointly with Aalborg University, Denmark), funded by Sino-Danish Renewable Energy Development Program (860,000 DKK), 03/2011 – 10/2011.

Professional Activities

2018

- Session Chair, the 6th World Congress of Environmental and Resource Economists, Gothenburg, Sweden, June 2018.
- Invited speaker at USAEE Energy Symposium: China’s Role in The Global Energy Landscape, Lehigh University, Bethlehem, U.S., April 2018.
- The Association of Environmental and Resource Economists Session at Eastern Economics Association Conference, Boston, U.S., March 2018.
- Invited talk at School of Environment, Southern University of Science and Technology, Shenzhen, China, January 2018.

2017

- The 1st China Association of Environmental and Resource Economists (CAERE) Conference, Beijing, August 2017.
- Invited talk at School of Economics and Management, China University of Petroleum, Beijing, China, July 2017.
- The 40th IAEE Conference. Singapore, June 2017.
- 2017 China Econometric Society Meeting, Wuhan, China, June 2017
- The 3rd Biennial Conference of China Development Studies, Shanghai, China, June 2017.
- Invited talk at School of Environment, Shanghai Jiao Tong University, Beijing, China, June 2017.

2016

- Invited talk at School of Management, Beihang University, Beijing, China, June 2016.

2015

- The 2nd Empirical Management Conference, Stanford, U.S., December 2015.
- Invited talk at “New Developments in CGE Modeling” Workshop, Mannheim, Germany, November 2015.
- The 33rd USAEE Conference, Pittsburgh, U.S., October 2015.
- The 2nd Biennial Conference of China Development Studies, Shanghai, China, June 2015.
- The 4th AERE Conference, San Diego, U.S., June 2015.

- Organizer and speaker at the 2nd Chinese Youth Environmental Scholar Forum at Yale University, New Haven, U.S., May 2015.
- Invited discussant at “Brown University workshop on environmental governance in China”, Providence, U.S., May 2015.

2014

- Invited talk at “Climate Policy in China and Europe: Progress and Prospects in Emissions Trading” Workshop, Mannheim, Germany, December 2014.
- Moderator at MIT Center for Energy and Environment Policy Research (CEEPR) Workshop, Cambridge, U.S., November 2014.
- Presentation at EPPA Workshop, MIT Joint Program on the Science and Policy of Global Change, Cambridge, U.S., November 2014.
- Invited talk at the 1st Chinese Youth Environmental Scholar Forum at Harvard University, Cambridge, U.S., November 2014.
- Invited talk at Zentrum für Europäische Wirtschaftsforschung (ZEW) lunch seminar, Mannheim, Germany, August 2014.
- Invited research tour at Humboldt University of Berlin, University of Bonn and Deutsche Forschungsgemeinschaft, Germany, August 2014.
- The 5th Lindau Meeting on Economics Sciences, Lindau, Germany, August 2014.
- Invited short visit, Chair of Economics / Energy Economics, Department of Management, Technology, and Economics D-MTEC, ETH Zurich, Zurich, Switzerland, August 2014.
- The 5th World Congress of Environmental and Resource Economists, Istanbul, Turkey, June 2014.
- The 37th IAEE Conference. New York, U.S., June 2014.
- 2014 International Energy Workshop, Beijing, China, June, 2014.

2013

- Invited presenter, Tsinghua-Rio Tinto Energy Modeling Workshop, Brisbane, Australia, December 2013.
- Invited short visit, Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim, Germany, July 2013.
- Annual GTAP conference, Shanghai, China, June 2013.

2012

- The 31st USAEE Conference. Austin, U.S., November 2012.
- The 6th Graduate Climate Conference. Pack Forest, U.S., October 2012.
- Ecomod 2012 Conference, Seville, Spain, July 2012.
- The 4th International Conference on Applied Energy, Suzhou, China, July 2012.
- Annual GTAP conference, Geneva, Switzerland, June 2012.

2011

- RETScreen International 2011 Conference, Niagara, Canada, June 2011.

2010

- The 8th National Doctoral Student Forum, Hohhot, China, September 2010.

Fellowships and Awards

Outstanding Reviewer, Energy, 05/2015.

Scholarship for the 5th Lindau Meeting on Economics Sciences, 06/2014.

Excellent Graduate Student of Beijing, 06/2014.
Excellent Graduate Student of Tsinghua University, 06/2014.
Excellent Ph.D. thesis at Tsinghua University, 06/2014.
Best Student Poster Award, the 37th IAEE Conference. New York, U.S., 06/2014.
Excellent Graduate Student for Research (Tsinghua top research award), Tsinghua University, 05/2013.
National Scholarship by Ministry of Education, China, 01/2013.
Outstanding PhD student by Ministry of Education, China, 12/2012.
First Prize Scholarship by Tsinghua University, 11/2012.
Scholarship for a one-year visit at MIT, Tsinghua University, 01/2012 - 01/2013.
Scholarship for attending RETScreen International 2011 Conference (3,000 CAD), National Resources Canada, 06/2011.
Scholarship for attending 2010 Intel-Berkeley Technology Entrepreneurship Competition, Intel Corporation, 11/2010.

Referee service

Outstanding Reviewer, Energy, 05/2015.
Reviewer for Nature Energy, Nature Geoscience, Nature Sustainability, The Energy Journal, Climatic Change, China Economic Review, Environmental and Resource Economics, Resource and Energy Economics, Energy Economics, Ecological Economics, Transportation Research Part A: Policy and Practice, Global Environmental Politics, Climate Policy, Environment and Planning C: Government and Policy, Energy, Energy Policy, Energy Strategy Reviews, Applied Energy, Utility Policy, Journal of Cleaner Production, Resources, Conservation and Recycling, Energy Science and Engineering, Sustainability Science, Sustainability.

References

Valerie J. Karplus
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