

# HONGYOU LU

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Energy Technologies Area  
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## **EMPLOYMENT**

### **Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA**

U.S. Department of Energy National Laboratory, managed by University of California

- Energy/Environment Technology Researcher III, Mar 2023 – present
- Senior Scientific Engineering Associate, Energy Technologies Area, Dec 2020 – Feb 2023
- Scientific Engineering Associate, Energy Technologies Area, Feb 2017 – Dec 2020
- Senior Research Associate, China Energy Group, Oct 2010 - Feb 2017
- Research Associate, China Energy Group, 2008-October 2010

## **EDUCATION**

### **University of California, Berkeley, CA, May 2015**

Master of Public Policy and Master of Science in Energy and Resources

### **Stanford University, Stanford, CA, April 2008**

Master of Arts in East Asian Studies

### **Peking University, Beijing, China, July 2006**

Bachelor of Arts in History and Bachelor of Arts International Relations

## **PROFESSIONAL EXPERIENCE**

- Chapter author of the United Nations Environment Programme the Production Gap Reports (2019 and 2021). *The Production Gap: The discrepancy between countries' planned fossil fuel production and global production levels consistent with limiting warming to 1.5°C or 2°C.* <https://productiongap.org/>
- Contributing author, Net Zero World Initiative, *Preliminary Analysis of Decarbonization Pathways for Five Countries.* November 2022. <https://www.nrel.gov/international/net-zero-world.html>
- Contributing author, Energy Foundation China, *Synthesis Report 2022 on China's Carbon-Neutrality: Electrification in China's Carbon Neutrality Pathways.* <https://www.efchina.org/Reports-en/report-lceg-20221104-en>
- Chapter author, Hewlett Foundation, *China Energy Outlook 2022.*
- Reviewer of the Industry Chapter of the Sixth Assessment Report (AR6) for the

Intergovernmental Panel on Climate Change (IPCC).

- Lead Technical Researcher, Energy Foundation of China, project on reducing embodied emissions of key building materials in China.
- Lead Technical Researcher, ClimateWorks Foundation, project on drivers of industrial energy demand in China and structural change.
- Contributing author, Energy Foundation China, RMI, and China's Energy Research Institute project on *Reinventing Fire: China modeling China's potential energy use and CO<sub>2</sub> emissions in 2050*
- Member of the Technical Working Group of the Steel Criteria, Climate Bond Initiative. <https://www.climatebonds.net/standard/Steel>
- Technical Researcher, Energy Foundation China, conducting research on industrial energy efficiency, benchmarking, auditing, guidebooks of energy-efficiency technologies and measures, and energy-efficiency international best practices
- Technical Researcher, U.S. Department of State, Asia Pacific Partnership on cement industry energy efficiency and greenhouse gas mitigation in China (cement benchmarking, tool development and localization, training and dissemination).
- Technical Researcher, U.S. Department of Energy, International Industrial Energy Efficiency Training and Deployment, conducting energy assessments in various Chinese industrial facilities, such as steel, cement, petrochemical, and pulp and paper facilities.
- Contributing author of various version of the China Energy Databook.
- Qualified Specialist in the U.S. Department of Energy's Process Heating Assessment and Survey Tool, and advanced in U.S. Department of Energy's Steam System Modeler Tool.

## **RECENT PUBLICATIONS**

1. **Lu, H.**, T. Zhou, and N. Zhou. 2023. *Industrial Energy Intensity Benchmarking and Energy Transition in Inner Mongolia*. June. Lawrence Berkeley National Laboratory (LBNL-2001513). Berkeley, CA. [https://eta-publications.lbl.gov/sites/default/files/industrial\\_energy\\_intensity\\_benchmarking\\_and\\_ene\\_rgy\\_transition\\_in\\_inner\\_mongolia-2023-06.pdf](https://eta-publications.lbl.gov/sites/default/files/industrial_energy_intensity_benchmarking_and_ene_rgy_transition_in_inner_mongolia-2023-06.pdf)
2. **Lu, H.**, N. Khanna, W. Feng, J. Ke, D. Fridley, and N. Zhou. 2022. *China's Electrification Pathways: Findings from the China Energy Outlook 2022*. Lawrence Berkeley National Laboratory (LBNL-2001466). Berkeley, CA. [https://eta-publications.lbl.gov/sites/default/files/lbnl\\_china\\_electrification\\_report-final-rev2.pdf](https://eta-publications.lbl.gov/sites/default/files/lbnl_china_electrification_report-final-rev2.pdf)
3. **Lu, H.**, W. Feng, N. Zhou, D. Fridley, L. Price, and S. de la Rue du Can. 2022. "Reducing China's Building Material Embodied Emissions: Opportunities and challenges to achieve carbon neutrality in building materials and construction", submitted to *iScience* (under peer-review).
4. Hasanbeigi, A., **H. Lu**, and N. Zhou. 2023. *Net-Zero Roadmap for China's Steel Industry*. March. Lawrence Berkeley National Laboratory, and Global Efficiency Intelligence. LBNL-2001506. [https://eta-publications.lbl.gov/sites/default/files/china\\_steel\\_roadmap-2mar2023.pdf](https://eta-publications.lbl.gov/sites/default/files/china_steel_roadmap-2mar2023.pdf)

5. Rissman, J., **H. Lu**, A. Armendariz, and Q. Zhang. 2022. *Decarbonizing Industry in the U.S. and China*. Energy Innovation and California-China Climate Institute. November.  
<https://ccci.berkeley.edu/decarbonizing-industry-us-and-china>
6. Kintner-Meyer, M., G. Conzelmann, H. Kim, N. Zhou, J.P. Carvallo, S. de la Rue du Can, P. DeStephano, S. Durga, A. Elgowainy, B. Hamilton, A. Kanudia, J. Ke, N. Khanna, Z. Khan, P. Kyle, V. Letschert, **H. Lu**, W. Feng, F. Feijoo, F. Flores, G. Giannakidis, F. Licandeo, H. McJeon, T. Reber, D. Rough, M. Westphal, and E. Wright. 2022. *Preliminary Analysis of Decarbonization Pathways for Five Countries: The Net Zero World Initiative Report Series – 01*. [https://eta-publications.lbl.gov/sites/default/files/preliminary\\_analysis\\_of\\_decarbonization\\_pathways\\_for\\_five\\_countries.pdf](https://eta-publications.lbl.gov/sites/default/files/preliminary_analysis_of_decarbonization_pathways_for_five_countries.pdf)
7. Yu, S., S. Fu, J. Behrendt, Q. Chai, L. Chen, W. Chen, X. Cheng, L. Clarke, X. Du, F. Guo, N. Hultman, N. Khanna, V. Krey, M. Li, J. Liu, **H. Lu**, J. Lou, C. Mei, X. Qin, K. Wang, Y. Wu, Z. Yang, S. Zhang, and N. Zhou (2022). “Synthesis Report 2022 on China's Carbon Neutrality: Electrification in China's Carbon Neutrality Pathways.” Energy Foundation China, Beijing, China. Available at: <https://www.efchina.org/Reports-en/report-lceg-20221104-en>

## **PRESENTATIONS**

1. Presented “Industrial Decarbonization in the United States and China” to the “Workshop on Regional Transition Pathways under Carbon Neutrality”, Institute of Energy, Environment and Economy, Tsinghua University, December 17, 2023.
2. Panelist of the report launch workshop “What are Green Cement and Concrete?”, Global Efficiency Intelligence, December 6, 2023.
3. Presented “Net-Zero Roadmap for China's Steel Industry”, “CCUS Applications in the Cement Industry”, and “Pathways to Reduce Embodied Emissions of Building Materials in China” to Guangzhou Institute of Energy Conversion (GIEC), Chinese Academy of Sciences, November 5, 2023.
4. Presented to “Indonesian Industry Decarbonization Roadmaps” to the United States Agency for International Development (USAID) on September 7, 2023.
5. Presented “Industry Sector Overview, Decarbonization Issues, Options, and Policies” at the Joint IAEA-Argonne National Laboratory Training Course on the Identification of Viable Sustainable Development Paths Using Energy System Assessment Tools, August 15, 2023.
6. Presented industry decarbonization roadmaps for five industrial sectors (cement, iron and steel, ammonia, pulp and paper, and textile industry) in Jakarta, Indonesia from June 20 to June 22, 2023.
7. Presented at the “China-U.S. Scientist Symposium on Climate change mitigation and carbon reduction technology pathways” hosted by the Institute for Carbon Neutrality, Tsinghua University, John A. Paulson School of Engineering and Applied Sciences, Harvard University, and the Institute of Climate Change and Sustainable Development, Tsinghua University, July 6, 2023.

8. Co-presented “Clean Industrial Heat: A Two-Pronged Approach”, presentation for China Industry Deep Decarbonization (Cidd) Program Pathways for Decarbonizing Thermal Heating Loads for the Industrial Sector, December 15, 2022.
9. Presented “Activities in Industrial Energy Efficiency and Decarbonization” to the United States Agency for International Development (USAID) on October 4, 2022.
10. Presented “China Steel Roadmap” and “Embodied emissions of Building Materials in China” to the ClimateWorks Foundation on August 11, 2022.
11. Co-presented “Modeling of Building Materials Embodied Emissions Pathway in China” at the Energy Technologies Area seminar on March 18, 2022.
12. Presented “International Experiences on Industry Decarbonization” at the “Scaling Up Industrial Decarbonization in India Towards Net Zero 2070: Strategies and Opportunities”, webinar organized by the Bureau of Energy Efficiency-India and the World Bank on December 15, 2021.
13. Presented the “Inner Mongolia Industry Transition” at the kickoff meeting of the project on “China Carbon Neutrality Targets at National and Subnational Level” on November 3, 2021 for Energy Foundation China.
14. Co-presented the “Green and Low Carbon Building Materials in China” at the Kickoff meeting of the project on “Building Materials Embodied Emissions” on Feb 1, 2021 for Energy Foundation China.
15. Presented the “Best Practices in Energy Efficiency and Co-Benefits for Air Quality: Focus on Heavy-duty Trucks & Cement Industry” on January 27, 2021 for the California-China Climate Institute.
16. Presented the “Advancing Energy Efficiency and Co-benefits for Air Quality: Focus on Heavy-duty Trucks & Cement Industry” on April 13, 2021 for the California-China Climate Institute.
17. Presented the final project workshop on “Advancing Energy Efficiency and Co-benefits for Air Quality: Focus on Heavy-duty Trucks & Cement Industry” on June 29, 2021 for the California-China Climate Institute.
18. Co-presented “The World’s Factory: Understanding China’s Industrial Sector in the Context of Domestic and Global Demand for Manufactured Goods” in the course of “ENVECON 170: Energy and Climate Policy in China”, for the Environmental Economics and Policy Program in the Department of Agricultural and Resource Economics of the University of California, Berkeley on March 17, 2021.
19. Co-presented “The World’s Factory: Understanding China’s Industrial Sector in the Context of Domestic and Global Demand for Manufactured Goods” on June 23, 2021. Invited presentation in the course of “China and CO2 Emissions”, for the Osher Lifelong Learning Institute at the University of California, Berkeley, CA.
20. Presented “Decarbonizing China’s Industry: Technologies, Policies, and Modeling Approaches” at the International Workshop on Modeling Mid-Century Low-Carbon Strategies, April 17-18, 2019, Beijing. China.

21. Presented at the Aspen Global Change Institute's workshop on "Technologies and Policies to Decarbonize the Industry Sector" on "Analysis of Waste Heat Potential in Chinese Industry" in Aspen, CO, November 11- 16, 2018.
22. Presented "Boiler Efficiency Solutions Case Studies" at the Boiler Steam System Tools and Efficiency Solutions Case Studies Training Workshop in Ningbo on July 16, 2016.
23. Presented "Capturing Invisible Resource: waste heat potential analysis and heat map development" at the *Waste Heat Recovery Workshop* in Beijing on September 7, 2016.
24. Presented "Capturing the Invisible Resource: Analysis of Waste Heat Potential in Chinese Industry and Policy Options for Waste Heat Generation" for the China Ministry of Industry and Information Technology (MIIT) Delegation to Lawrence Berkeley National Laboratory. Berkeley, CA. March 15. 2016.

### **AWARDS & FELLOWSHIPS**

- Lawrence Berkeley National Laboratory Spot Award Recognition (March 2021)
- Lawrence Berkeley National Laboratory Spot Award Recognition (December 2015)

### **FULL LIST OF PUBLICATIONS**

#### ***Peer-Reviewed Journal Articles***

1. Khanna, N., J. Zhang, **H. Lu**, W. Feng, M. Johnson-Wang, and N. Zhou. 2023. "Conceptualizing demand-side technological and social innovations in modeling pathways to carbon neutrality", *Energy Research & Social Science*, 100, June 2023, 103115, <https://doi.org/10.1016/j.erss.2023.103115>
2. **Lu, H.**, W. Feng, N. Zhou, D. Fridley, L. Price, and S. de la Rue du Can. 2022. "Reducing China's Building Material Embodied Emissions: Opportunities and challenges to achieve carbon neutrality in building materials and construction", submitted to *iScience* (under peer-review).
3. Khanna, N., **H. Lu**, D. Fridley, and N. Zhou. 2021. "Strategies to Decarbonize China's Heavy-duty Trucks: Near and Long-term Perspectives to 2050". *Scientific Report* 11, 20414. <https://doi.org/10.1038/s41598-021-99715-w>
4. Rissman, J., C. Bataille, E. Masanet, N. Aden, W. Morrow, N. Zhou, N. Elliott, R. Dell, N. Heeren, B. Huckestein, J. Cresko, S. Miller, J. Roy, P. Fennel, B. Cremmins, T. Blank, D. Hone, E. Williams, S. de la Rue du Can, B. Sisson, M. Williams, J. Katzenberger, D. Burtraw, G. Sethi, H. Ping, D. Danielson, **H. Lu**, T. Lorber, J. Dinkel, and J. Helseth. 2020. "Technologies and Policies to Decarbonize Global Industry". *Applied Energy*, Vol 26, May, <https://doi.org/10.1016/j.apenergy.2020.114848>
5. Liu, X., J. Lin, J. Hu, **H. Lu**, and J. Cai. 2019. "Economic Transition, Technology Change, and Energy Consumption in China: A Provincial-Level Analysis". *Energies*, 12, 2581; doi:10.3390/en12132581
6. Liu, X., B. Shen, L. Price, A. Hasanbeigi, **H. Lu**, C. Yu, and G. Fu. 2019. "A Review of International Practices for Energy Efficiency and Carbon Emissions Reduction and Lessons Learned for China", *Wiley Interdisciplinary Reviews: Energy and Environment*. DOI:

10.1002/wene.342

7. Zhou, N., L. Price, Yande, D., J. Cretys, N. Khanna, D. Fridley, **H. Lu**, W. Feng, X. Liu, A. Hasanbeigi, Z. Tian, H. Yang, Q. Bai, Y. Zhu, H. Xiong, J. Zhang, K. Chrisman, J. Agenbroad, R. McIntosh, D. Mullaney, C. Stranger, E. Wanless, D. Wetzel, C. Yee, and E. Franconi. 2019. "A roadmap for China to peak carbon dioxide emissions and achieve a 20% share of non-fossil fuels in primary energy by 2030", *Applied Energy*, 793-819.  
<https://doi.org/10.1016/j.apenergy.2019.01.154>
8. Lin, J., D. Fridley, **H. Lu**, L. Price, and N. Zhou. 2018. "Has Coal Use Peaked in China: Near-term trends in China's coal consumption", *Energy Policy*, 208-214.  
<https://doi.org/10.1016/j.enpol.2018.08.058>
9. Zhang, Q., J. Xu, Y. Wang, A. Hasanbeigi, W. Zhang, **H. Lu**, M. Arens. 2017. "Comprehensive assessment of energy conservation and CO2 emissions mitigation in China's iron and steel industry based on dynamic material flows", *Applied Energy*, 209, 251-265.  
<http://dx.doi.org/10.1016/j.apenergy.2017.10.084>
10. Shen, B., Y. Han, L. Price, **H. Lu**, and M. Liu. 2017. "Techno-economic evaluation of strategies for addressing energy and environmental challenges of industrial boilers in China", *Energy*, Volume 118. <http://dx.doi.org/10.1016/j.energy.2016.10.083>
11. Zhang, Q., X. Zhao, **H. Lu**, T. Ni, and Y. Li. 2017. "Waste energy recovery and energy efficiency improvement in China's iron and steel industry", *Applied Energy*, Volume 191.  
<http://dx.doi.org/10.1016/j.apenergy.2017.01.072>
12. **Lu, H.**, L. Price, Q. Zhang. 2015. "Capturing the Invisible Resource: Analysis of Waste Heat Potential in Chinese Industry", *Applied Energy*, Volume 161.  
<https://doi.org/10.1016/j.apenergy.2015.10.060>
13. Lewis, J., D. Fridley, L. Price, **H. Lu**, and J. Romankiewicz. 2015. "Understanding China's non-fossil energy targets", *Science*, November 27.  
<http://science.sciencemag.org/content/350/6264/1034>
14. Shen, B., F. Dai, L. Price, and **H. Lu**. 2014. "California's Cap-and-Trade Program and Insights for China's Pilots," *Energy and Environment*, Volume 25 (3 & 4): 551-575.
15. **Lu, H.** and Y. Zhou. 2013. "Direct Allocation of Emission Allowances for Industrial Sectors - Experience from California's Cap-and-Trade Program." (in Chinese). *Journal of Science and Management* (ISSN 1003-8256). Vol 5.
16. **Lu, H.** and Y. Zhou. 2013. "Establishment of California Carbon Emission Trading Market and Recommendations for China." (in Chinese). *Journal of Science and Management* (ISSN 1003-8256). Vol 4.
17. Hasanbeigi, A., A. Lobscheid, **H. Lu**, L. Price, and Y. Dai. 2013. "Quantifying the Co-benefits of Energy-Efficiency Programs: A Case-study for the Cement Industry in Shandong Province, China," *Science of the Total Environment*, Volumes 458-460: 624-636.
18. Price, L., N. Zhou, D. Fridley, S. Ohshita, **H. Lu**, N. Zheng, C. Fino-Chen. 2013. "Development of a Low-Carbon Indicator System for China," *Habitat International*, Volume 37: 4-21.

19. Hasanbeigi, A., L. Price, C. Fino-Chen, **H. Lu**, J. Ke. 2013. "Retrospective and Prospective Decomposition Analysis of Chinese Manufacturing Energy Use and Policy Implications." *Energy Policy*, Volume 63: 562–574.
20. Shen, B., L. Price, and **H. Lu**. 2012. "Energy Audit Practices in China: National and Local Experiences and Issues," *Energy Policy* Volume 46 (2012): 346-358.
21. Price, L., M.D. Levine, L. Price, N. Zhou, D. Fridley, N. Aden, **H. Lu**, M. McNeil, N. Zheng, Y. Qin, P. Yowargana. 2011. "Assessment of China's Energy-Saving and Emission-Reduction Accomplishments and Opportunities During the 11<sup>th</sup> Five-Year Plan," *Energy Policy* Volume 39(4): 2165-2178.
22. Hasanbeigi, A., L. Price, **H. Lu**, L. Wang. 2010. "Analysis of Energy-Efficiency Opportunities for the Cement Industry in Shandong Province, China: A Case-Study of Sixteen Cement Plants," *Energy* Volume 35: 3461-3473.

#### **Peer-Reviewed Conference Proceedings**

1. Feng, W., **H. Lu**, L. Xu, N. Zhou, L. Sherlock, J. Hou, and X. Wang. 2019. "Building energy efficiency policy in Chinese cities and comparison with international cities", *Proceedings of the 2019 European Council for An Energy-Efficient Economy*. Hyeres, France, June 3 - 8, 2019.
2. Liu, X., J. Lin, **H. Lu**, J. Cai. 2018. "A provincial analysis of economic transition and energy consumption in China", *Proceedings of the 6th International Association for Energy Economics (IAEE) Asian Conference*. Wuhan, China. November 2 - 4, 2018
3. Price, L. N. Khanna, N. Zhou, D. Fridley, A. Hasanbeigi, **H. Lu**, W. Feng, Y. Dai, Z. Tan, H. Yang, Q. Bai, Y. Zhu, H. Xiong, J. Zhang, J. Creyts, K. Chrisman, E. Franconi, J. Agenbroad, M. Bendewald, Y. Ke, R. McIntosh, D. Mullaney, C. Stranger, D. Wetzel, and C. Yee. 2017. "Reinventing fire: China – the role of energy efficiency in China's roadmap to 2050," *Proceedings of the 2017 European Council for An Energy-Efficient Economy's Summer Study*. Hyeres, France, May 29 – June 3, 2017.
4. **Lu, H.**, L. Price, A. Thekdi, S. Nimbalkar, M. DeGroot, and J. Shi. 2014. "Conducting Process Heating Energy Efficiency Assessments in Chinese Industrial Plants – Case Studies based on Assessments Conducted at Two Steel Plants," *Proceedings of the 2014 European Council for An Energy-Efficient Economy's Industrial Summer Study*. Arnhem, The Netherlands, June 2-5, 2014.
5. Shen, B., **H. Lu**, and L. Price. 2014. "U.S. Experience Addressing Energy and Environmental Challenges of Industrial Boiler Systems: Insights for China", *Conference proceedings of 2014 CCEEE Fall Study on Industrial Energy Efficiency*, Beijing, China. October 24 – October 26, 2014.
6. Hasanbeigi, A., A. Lobscheid, **H. Lu**, L. Price, and Y. Dai. 2014. "Including the Co-benefits of Energy-Efficiency Programs and Projects in Cost-Benefit Analysis - A Case Study for the Cement Industry." *Proceedings of the International Conference on Clean Energy*. June 8-12, 2014. Istanbul, Turkey.

7. Price, L., N. Zhou, D. Fridley, **H. Lu**, L. Hong, C. Fino-Chen, J. Ke, S. Ohshita, M. Hu, Y. Zhou, S. Hammer, and X. Hu. 2014. "Energy-Efficiency and Greenhouse Gas Mitigation Policy Options: Assisting Chinese Cities in Prioritizing and Choosing Strategies to Implement to Become a Sustainable Community," *Proceedings of the American Council for An Energy-Efficient Economy 2014 Summer Study on Energy Efficiency*. Washington DC: ACEEE.
8. Price, L., N. Zhou, D. Fridley, **H. Lu**, L. Hong, C. Fino-Chen, S. Ohshita, M. Hu, and Y. Zhou. 2014. "Energy-Efficiency and Greenhouse Gas Mitigation Policy Options: How Does a City Prioritize and Choose Which Strategies to Implement to Become a Resilient, Sustainable Community?" *Conference proceedings of 2014 ACEEE Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA. August 17 – August 22.
9. Price, L., A. Hasanbeigi, H. Xiong, G. Fu, E. Wanless, L. Hong, **H. Lu**, R. McIntosh, and P. He. 2014. "Envisioning China's Energy-Efficient and Low-Carbon Industrial Sector in 2050: Reinventing Fire Pathway Vision and Methodology," *Proceedings of the China Council for an Energy-Efficient Economy 2014 Fall Study on Industrial Energy Efficiency and Regional Haze*. Beijing, China.
10. Shen, B., L. Price, E. Meredydd, Y. Sha, and **H. Lu**. 2014. "Unleashing Energy Efficiency Retrofits Through Energy Performance Contracts in China", Conference proceedings of 2014 CCEEE Fall Study on Industrial Energy Efficiency, Beijing, China. October 24 – October 26, 2014.
11. Hasanbeigi, A., L. Price, **H. Lu**, C. Fino-Chen, and J. Ke. 2013. "Retrospective and Prospective Decomposition Analysis of Chinese Manufacturing Energy Use and Policy Implications for Industry Structural Change." *Proceedings of the International Conference on Frontier Issues in Economics and Management*. Beijing University of Chemical Technology. July 3-4, 2013.
12. Hasanbeigi, A., L. Price, **H. Lu**, C. Fino-Chen, and J. Ke. 2013. "What Shaped the Chinese Manufacturing Energy Use Since 1995 and What's the Prediction for the Future?" *Proceedings of the 2013 American Council for An Energy Efficiency Economy Industrial Summer Study*. Washington DC: ACEEE.
13. **Lu, H.** and L. Price. 2012. "China's Industrial Carbon Dioxide Emissions in Manufacturing Subsectors and in Selected Provinces," *Proceedings of the 2012 European Council for An Energy-Efficient Economy's Industrial Summer Study*. Arnhem, The Netherlands, September 11-14, 2012.
14. Price, L., N. Zhou, D. Fridley, S. Ohshita, **H. Lu**, N. Zheng, and C. Fino-Chen. 2012. "Development of an End-Use Sector-Based Low-Carbon Indicator System for Cities in China," *Proceedings of the American Council for an Energy-Efficient Economy's 2012 Summer Study on Energy Efficiency in Buildings*. Washington, DC: ACEEE.
15. Hasanbeigi, A., L. Price, **H. Lu**, and C. Williams. 2012. "International Best Practices in Pre-treatment and Co-processing of Municipal Solid Waste and Sewage Sludge in the Cement Industry." *Proceedings of the 2012 ECEEE Summer Study on Energy Efficiency in Industry*. September 11-14, 2012. Arnhem, the Netherlands.



16. Hasanbeigi, A., L. Price, **H. Lu**, and C. Williams. 2012. "Co-processing of Municipal Solid Waste and Sewage Sludge in the Cement Industry." *The 3rd ISIE Asia-Pacific Meeting*, October 20-21 2012. Beijing, China.
17. Romankiewicz, J., B. Shen, L. Price, and **H. Lu**. 2012. "Addressing the effectiveness of industrial energy efficiency incentives in overcoming investment barriers in China," *Proceedings of the European Council for an Energy-Efficient Economy's 2012 Summer Study*. No. 6-156-12. Stockholm: ECEEE.
18. Price, L., and **H. Lu**. 2011. "Industrial Energy Auditing and Assessments: A Survey of Programs Around the World," Proceeding of at the 2011 European Council for An Energy-Efficient Economy's Summer Study on Energy-Efficiency. June 6-11, 2011, France.
19. **Lu, H.** and L. Price. 2011. "Industrial Energy Assessments: A Survey of Programs Around the World," *Proceedings of the 2011 American Council for An Energy-Efficient Economy's Summer Study on Energy-Efficiency in Industry*. July 26-29, 2011, Niagara Falls, New York.
20. **Lu, H.**, E. Masanet, and L. Price. 2009. "Evaluation of Life-Cycle Assessment Studies of Chinese Cement Production: Challenges and Opportunities," *Proceedings of the American Council for An Energy-Efficient Economy's 2009 Summer Study on Energy Efficiency in Industry*. July 26-29 (LBNL-2335E). Washington, D.C.: American Council for An Energy-Efficient Economy.

#### **Peer-Reviewed Chapters/Articles in Books**

1. Ohshita, S.B., N. Zhou, L. Price, D. Fridley, N. Zheng Kanna, LX. Hong, **H. Lu**, C. Fino-Chen, and G. He. 2015. "Low Carbon Development for Cities: Methods and Measures." Chapter in Vol. 6 'Sustainability of Energy Systems' in the *Handbook of Clean Energy Systems*. JY Yan, ed. Wiley: London. <http://onlinelibrary.wiley.com/book/10.1002/9781118991978>

#### **LBNL Reports**

1. **Lu, H.**, T. Zhou, and N. Zhou. 2023. *Industrial Energy Intensity Benchmarking and Energy Transition in Inner Mongolia*. June. Lawrence Berkeley National Laboratory (LBNL-2001513). Berkeley, CA. [https://eta-publications.lbl.gov/sites/default/files/industrial\\_energy\\_intensity\\_benchmarking\\_and\\_energy\\_transition\\_in\\_inner\\_mongolia-2023-06.pdf](https://eta-publications.lbl.gov/sites/default/files/industrial_energy_intensity_benchmarking_and_energy_transition_in_inner_mongolia-2023-06.pdf)
2. Hasanbeigi, A., **H. Lu**, and N. Zhou. 2023. *Net-Zero Roadmap for China's Steel Industry*. March. Lawrence Berkeley National Laboratory, and Global Efficiency Intelligence. LBNL-2001506. [https://eta-publications.lbl.gov/sites/default/files/china\\_steel\\_roadmap-2mar2023.pdf](https://eta-publications.lbl.gov/sites/default/files/china_steel_roadmap-2mar2023.pdf)
3. **Lu, H.**, N. Khanna, W. Feng, J. Ke, D. Fridley, and N. Zhou. 2022. *China's Electrification Pathways: Findings from the China Energy Outlook 2022*. Lawrence Berkeley National Laboratory (LBNL-2001466). Berkeley, CA. [https://eta-publications.lbl.gov/sites/default/files/lbnl\\_china\\_electrification\\_report-final-rev2.pdf](https://eta-publications.lbl.gov/sites/default/files/lbnl_china_electrification_report-final-rev2.pdf)
4. Zhou, N., N. Khanna, J. Zhang, **H. Lu**, L. Price, D. Fridley, J. Ke, W. Feng, B. Shen, J. Lin, and M. Levine. 2022. *China Energy Outlook 2022*. Lawrence Berkeley National Laboratory (LBNL-

- 2001444). Berkeley, CA.
5. Zhou, N., **H. Lu**, Khanna, N., Liu, X., Fridley, D., Price, L., Shen, B., Feng, W., Lin, J., Szum, C., Ding, C., 2020. China Energy Outlook: Understanding China's Energy and Emissions Trends. Berkeley, CA: Lawrence Berkeley National Laboratory. <https://china.lbl.gov/china-energy-outlook-2020>
  6. Fridley, D. **H. Lu**, J. Lin, and L. Price. 2018. "Near-Term Trends in China's Coal Consumption". Lawrence Berkeley National Laboratory (LBNL-2001145). Berkeley, CA.
  7. Fridley, D. **H. Lu**, N. Khanna, X. Liu, and A. Zhu. 2017. *China Energy Databook, Version 9*. Lawrence Berkeley National Laboratory, Berkeley, California. <https://china.lbl.gov/china-energy-databook>
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  9. Liu, X. B. Shen, L. Price, **H. Lu**, and A. Hasanbeigi. 2016. *What China can learn from international policy experiences to improve industrial energy efficiency and reduce CO<sub>2</sub> emissions?* November. Lawrence Berkeley National Laboratory (LBNL-1006470). Berkeley, CA.
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