

FANXIN MENG, Postdoctoral Associate

Curriculum Vitae (December 2019)

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Personal: female; married; one son.

Present Positions:

- Postdoctoral Associate, Seto Lab/Urbanization & Global Change, School of Forestry & Environmental Studies, Yale University (Supervisor: Karen Seto).

Honors & PRIZES:

- Jan 2019 Certificate for the contributions of urban carbon emissions database construction of China in 2005, jointly organized by Center for Policy Studies on Climate Change in Ministry of Environmental Protection and Climate Change Branch in Chinese Society for Environmental Sciences.
- Dec 2018 Excellent doctoral dissertation in Beijing Normal University, “Study on urban energy-water-carbon nexus based on multi-regional input-output model”.
- May 2017 Nomination for 2017 “Wege Prize” Awards (\$1000, only 5 international groups are selected). This award acknowledges international student team of five to collaboratively design and propose a work to help transition from a linear economic model to a circular economic model. (Remade in China team: **Fanxin Meng**, Marco Casazza, Jingyan Xue, Yan Gao, Xinyu Liu, Food-Energy-Water Nexus Urban Circular Economy Calculator, Website: <http://ucec.umsoft.cn/introduce.html>)
- Nov 2016 First Class Academic Scholarship of Beijing Normal University
- Nov 2015 Second Class Academic Scholarship of Beijing Normal University
- June 2012 Awarded as “Merit Student” of Chinese Academy of Sciences
- Nov 2011 Second Class Academic Scholarship of Institute of Urban Environment, Chinese Academy of Sciences
- Nov 2010 Third Class Academic Scholarship of Institute of Urban Environment, Chinese Academy of Sciences

EDUCATIONS

- Sep 2014-Jun 2017 **Ph.D. in “Environmental Sciences”**, School of Environment, Beijing Normal University, Beijing, China (Supervisor: Zhifeng Yang).
- Sep 2009-Jun 2012 **MSc. in “Environmental Economics and Environmental Management”**, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China (Supervisor: Shenghui Cui).
- Sep 2005-Jun 2009 **BSc. in “Environmental Engineering”**, School of Resource and Environment, North China University of Science and Technology, Tangshan, China.

Job History

- July. 2017-March 2019 **Postdoc in “Environmental Sciences”**, Joint Research base of South China University of Technology and Dongguan University of Technology, Dongguan, China (Supervisor: Zhi Dang and Zhifeng Yang).
- Aug 2012- Aug 2014.8 **Research Associate in “Environmental Policy and Management”**, School of Environment, Tsinghua University, Beijing, China (Supervisor: Zongguo Wen).

Publications

2019

Shulei Cheng, Wei Fan, Jiandong Chen, **Fanxin Meng***, Gengyuan Liu, Malin Song, Zhifeng Yang. The impact of fiscal decentralization on CO₂ emissions in China. *Energy*, 2020, 192: 1-15. (SCI TOP, IF: 4.968)

Fanxin Meng; Gengyuan Liu; Sai Liang; Meirong Su; Zhifeng Yang*. Critical review of the energy-water-carbon nexus in cities. *Energy*, 2019, 171: 1017-1032. (SCI TOP, IF: 4.968)

Fanxin Meng; Gengyuan Liu; Yuan Chang; Meirong Su; Yuanchao Hu; Zhifeng Yang*. Quantification of urban water-carbon nexus using disaggregated input-output model: a case study in Beijing (China). *Energy*, 2019, 171: 403-418. (SCI TOP, IF: 4.968)

Asim Nawab, Gengyuan Liu, **Fanxin Meng***, Yan Hao, Yan Zhang, Yuanchao Hu, Marco Casazza. Exploring urban energy-water nexus embodied in domestic and international trade: a case of Shanghai. *Journal of Cleaner Production*, 2019, 223: 522-535. (SCI TOP, IF:5.651)

Ning Wang*; Zhanqiang Guo; **Fanxin Meng***; Hongtao Wang; Jieli Yin; Yu Liu. The circular economy and carbon footprint: A systematic accounting for typical coal-fuelled power industrial parks. *Journal of Cleaner Production*, 2019, 229:1262-1273. (SCI TOP, IF:5.651)

Asim Nawad; Gengyuan Liu*; **Fanxin Meng***; Yan Hao; Yan Zhang; Marco Casazza. Urban energy water nexus: spatial and inter-sectoral analysis in a multi-scale economy. *Ecological Modelling*, 403: 44-56. (SCI, IF: 2.643)

Caocao Chen; Gengyuan Liu; **Fanxin Meng**; Yan Hao; Yan Zhang; Marco Casazza. Energy consumption and carbon footprint accounting of urban and rural residents in Beijing through consumer lifestyle approach. 2019, 98: 575-586 *Ecological Indicators* (SCI, IF:3.983).

Bofeng Cai; Jun Lu; Jinnan Wang; Huijuan Dong; Xiaoman Liu; Yang Chen; Zhanming Chen; Jianhui Cong; Zhipeng Cui; Chunyan Dai; Kai Fang; Tong Feng; Jie Guo; Fen Li; **Fanxin Meng** et al. A benchmark city-level carbon dioxide emission inventory for China in 2005. 2019, 233-234: 659-673. *Applied Energy* (SCI TOP, IF: 7.9)

Fanxin Meng; Xinming Xia; Yuanchao Hu; Zhifeng Yang*. Virtual water in trade between China and typical countries along belt and road. *Strategic Study of Chinese Academy of Engineering*, 21(4): 92-99. (In Chinese)

Fanxin Meng; Fen Li*; Xiaoman Liu; Bofeng Cai; Meirong Su; Jumei Hu; Yi Zhang. Study on present status of carbon emissions in China's 'Belt and Road Initiative' node cities. 2019. *China Population, Resource and Environment*, 29 (1): 32-39. (In Chinese)

Fanxin Meng; Meirong Su; Yuanchao Hu; Xinming Xia; Zhifeng Yang*. Embodied carbon in trade of China and typical countries along the 'Belt and Road'. 2019. *China Population, Resource and Environment*. (In Chinese)

2018

Meng Fanxin; Liu Gengyuan; Hu Yuanchao; Su Meirong; Yang Zhifeng*, Urban carbon flow and structure analysis in a multi-scales economy., *Energy Policy*, 2018, 121: 553-564. (SCI TOP, IF: 4.039)

Wang Ning; Li Heng; Liu Gengyuan; **Meng Fanxin***; Shan Shaolei; Wang Zongshui. Developing a more comprehensive energy efficiency index for coal production: Indicators, methods and case study. *Energy*, 2018, 162: 944-952. (SCI TOP, IF: 4.968)

Asim Nawab, Gengyuan Liu*, **Fanxin Meng**, Energy water nexus and its implications in urban sectors. 2018 Joint International Conference on Energy, Ecology and Environment (ICEEE 2018) and International Conference on Electric and Intelligent Vehicles (ICEIC 2018). Isbn: 978-60595-590-2.

Fanxin Meng; Gengyuan Liu; Yuanchao Hu; Meirong Su*; Zhifeng Yang. From production to consumption: a multi-city comparative study of cross-regional carbon emissions. 2018, 152: 744-749 Energy Procedia (EI);

Ning Wang; Yixin Ren; Rao Zhu; **Fanxin Meng**; Zongguo Wen; Gengyuan Liu. Life cycle carbon emission modeling of coal-fired power: Chinese case. 2018, 162: 841-852. Energy (SCI TOP, IF: 4.968)

Hu Yuanchao; Huang Yunfeng; Tang Jianxiong; Gao Bing; Yang Miaohong; **Meng Fanxin**; Cui Shenghui*. Evaluating agricultural grey water footprint with modeled nitrogen emission data. 2018, 138: 64-73. Resources, Conservation & Recycling (SCI, IF: 5.120)

Hu Jumei; Liu Gengyuan*; **Meng Fanxin**. Estimates of the effectiveness for urban energy conservation and carbon abatement policies: the case of Beijing city, China. Journal of Environmental Accounting and Management, 2018, 6(3):207-222. (ESCI);

Bofeng Cai; Xiaoman Liu; Jun Lu; Jinnan Wang; Hongguang Liu; Yang Chen; Zhanming Chen; Jianhui Cong; Zhipeng Cui; Chunyan Dai; Huijuan Dong; Kai Fang; Tong Feng; Jie Guo; Fen Li; **Fanxin Meng** et al. China city CO₂ emissions in 2005. 2018, 28(4):1-7 China population, resource and environment. (In Chinese)

China GHG Working Group. China City CO₂ Emissions Database (2005). 2018, Beijing: China Environment Press. Contribute to the Chart 2 and 7. (In Chinese)

2017

Meng Fanxin; Liu Gengyuan; Yang Zhifeng*; Hao Yan; Yan Zhang; Ulgiati Sergio. Life cycle perspective for urban energy use and carbon emissions: a case study of Xiamen, China. 2017, 5(1):71-76 Journal of Environmental and Accounting and Management (ESCI).

Fanxin Meng; Gengyuan Liu*; Zhifeng Yang; Yuanchao Hu; Marco Casazza; Biagio Fernando Giannetti; Sergio Ulgiati. Tracing urban carbon flow in the global economy system: Consumption vs production perspectives. Casazza M, Ulgiati S, Vanoli L, et al., 10th BIWAES 2017, 10th Biennial International Workshop Advances in Energy Studies, Villa Doria d'Angri, Naples, Italy, September 25-28, 2017, 176-183. (Conference paper)

Marco Casazza; Gengyuan Liu*; Jingyan Xue; **Fanxin Meng**; Yan Gao; Xinyu Liu; Zhifeng Yang; Sergio Ulgiati. Water-Energy-Food urban planning: The Urban Circular Economy Calculator (UCEC). Casazza M, Ulgiati S, Vanoli L, et al., 10th BIWAES 2017, 10th Biennial International

Workshop Advances in Energy Studies, Villa Doria d'Angri, Naples, Italy, September 25-28, 2017, 431-438. (Conference paper)

Fanxin Meng; Gengyuan Liu; Meirong Su; Zhifeng Yang; Shengnan Zhao. Research status of urban multi-elements for energy-water-carbon environmental management. Annual conference proceedings of 2017 environmental management professional committee. 2017.12.14. Tongji University, Shanghai. (In Chinese)

2016

Meng Fanxin; Liu Gengyuan; Yang Zhifeng*; Casazza Marco, Cui Shenghui. Energy efficiency of urban transportation system in Xiamen, China. An integrated approach. 2016, 186, part 2: 234-248 Applied Energy (SCI TOP, IF:7.6);

Meng Fanxin; Liu Gengyuan; Zhang Yan; Su Meirong; Yang Zhifeng*. Structural Analysis of Embodied Greenhouse Gas Emissions from Key Urban Materials: A Case Study of Xiamen City, China. 2016, 163,212-223 Journal of Cleaner Production. (SCI TOP, IF:5.651);

Meng Fanxin; Liu Gengyuan; Yang Zhifeng*; Hao Yan; Ulgiati Sergio. Assessment of Urban Transportation Metabolism from Life Cycle Perspective: A Multi-method Study. 2016, 88:243-249 Energy Procedia (EI);

2015

Wen Zongguo*; **Meng Fanxin**; Di Jinghan; Tan Qilu. Technological Approaches and Policy Analysis of Integrated Water Pollution Prevention and Control for the Coal-to-Methanol Industry Based on Best Available Technology. 2015,113 (1): 231-240 Journal of Cleaner Production (SCI TOP, IF: 5.651);

Wen Zongguo*; Chen Min; **Meng Fanxin**. Evaluation of energy saving potential in China's cement industry using the Asian-Pacific Integrated Model and the technology promotion policy analysis. 2015, 77:227-237 Energy Policy (SCI TOP, IF: 4.039);

2014

Wen Zongguo*; **Meng Fanxin**; Chen Min. Estimates of the potential for energy conservation and CO₂ emissions mitigation based on AIM/end-use model: the case of the iron and steel industry in China.2014,65(4):120-130 Journal of Cleaner Production (SCI TOP, IF: 5.651);

2011-2013

Lin Jianyi; Liu Yuan; **Meng Fanxin**; Cui Shenghui*; Xu Lilai. Using hybrid method to evaluate carbon footprint of Xiamen City, China. 2013, 58, 220-227 Energy Policy (SCI TOP, IF: 4.039);

Cui Shenghui*; **Meng Fanxin**; Wang Wei; Lin Jianyi. GHG accounting for public transport in Xiamen city, China. 2011, 2(4), 383-395 Carbon Management. (SCI, IF: 2.092);

Lin Jianyi; **Meng Fanxin**; Cui Shenghui*; Yu Yang; Zhao Shengnan. Carbon footprint analysis on urban energy use: a case study of Xiamen, China. 2012, 32(12):3782-3794 Acta Ecologica Sinica. (Supervisor as the first author) (In Chinese)

Yu Yang; Cui Shenghui*; Zhao Shengnan; **Meng Fanxin**; Li Fei. Changes of residents nitrogen consumption and its environmental loading from food in Xiamen. 2012, 32(19): 5953-5961 Acta Ecologica Sinica. (In Chinese)

Academic Activities

- Dec 2019, “Understanding and conceptualizing how urban green blue infrastructure affects the food, water, and energy nexus: A synthesis of the literature”. Food-Energy-Water Nexus. New York, US. (Poster Presentation)
- Sep 2019, “Preliminary thinking on the model for simulating GBI and FWEN in cities”. The Sustainable Urbanisation Global Initiative (SUGI)/Food-Water-Energy Nexus: Second Meeting of the Belmont Forum Project” Sao Paulo, Brazil (Oral Presentation)
- Nov 2018, “What does the Future Hold in Megacity based on Energy-Water-Food Nexus Perspective”. SURE-China 2018. The 2nd Society for Urban Ecology-China Chapter Seminar and 6th Urban Ecology Forum. Shanghai, China. (Oral Presentation)
- Sep 2018, “Evaluation of the physical and virtual water transfers for Beijing City”. ISIE-AP 2018. International Society of Industrial Ecology 6th Asia Pacific conference. Qingdao, China. (Oral Presentation)
- July 22-31 2018, has participated in the Applied Energy Summer School (2018) Energy-Emission-Water Nexus in Global Cities. Beijing, China.
- June 2018, “From production to consumption: A multi-city comparative study of cross-regional carbon emissions”. CUE 2018. Applied Energy Symposium and Forum 2018: Low carbon cities and urban energy systems, CUE2018, 5–7 June 2018, Shanghai, China (Oral Presentation)
- June 2018, “Urban Energy-Water-Food Nexus Accounting Framework based on Global Multi-

Scale Input-Output Model: A Case of Beijing, China”. icRS 2018. 2018 International Conference on Resource Sustainability. Beijing, China. (Oral Presentation)

- Sep 2017, “Urban energy-water-carbon nexus analysis based on production and consumption perspectives”. BIWAES 2017. 10th Biennial International Workshop Advances in Energy Studies. Villa Doria d’Angri, Naples, Italy. (Oral Presentation)
- Nov 2015, “Urban carbon footprint accounting based on life cycle perspective”. 2015 Global Cleaner Production and Consumption Conference. Sitges, Barcelona, Spain. (Oral Presentation)
- Dec 2015, “Environmental sustainable assessment on urban public transport based on life cycle perspective”. The First Environmental Ecology Doctoral Innovation Forum. Beijing, China. (The Best Oral Presentation)
- Sep 2011, “Urban carbon footprint evaluation methodology and case study”. Urban carbon footprint and modeling international academic seminar. Xiamen, China. (Oral Presentation)

Projects Leadership

- **Hosting** the National Natural Science Foundation Project “Integrated systems accounting and development of an assessment toolkit of urban food-energy-water (FEW) nexus under the cross-regional perspective”, Jan 2019-Nov 2021. (NO. 71804023)
- **Hosting** China Postdoctoral Science Foundation Project “Integrated systems modeling of energy-water-carbon nexus for urban sustainability”, Nov 2017-Mar 2019. (NO. 2017M622701).
- **Hosting** Research start-up funds of Dongguan University of Technology Project “Urban energy-water-carbon nexus theory and methodology research based on urban metabolism framework”, July 2017-July 2019. (NO. GC300501-15).
- **Core Team Member** in the Consulting Project of China Academy of Engineering “Research on the urban ecological health assessment and upgrading strategy in China under the One Belt One Road background”, Jan 2017-present. (NO. 2017-XY-23).
- **Core Team Member** in the National Natural Science Foundation U.S.-China Project “Integrated systems modeling of energy-water-carbon nexus for urban sustainability”, Jan 2016-present. (NO. 51661125010)
- **Core Team Member** in the National Natural Science Foundation Innovation Research Group

“River water environment, water ecology and integrated management”, Jan 2015-Nov 2017. (No. 51421065).

- **Core Team Member** in the National Natural Science Foundation Project “Cooperative research on correlative mechanism based on urban agglomeration industry metabolism”, Jan 2017-present. (NO. 71673029).
- **Core Team Member** in the National Natural Science Foundation Project “Analysis of the spatio-temporal patterns in modeling the impact of river basin ecological health on urban industrial metabolic process”, Jan 2015-present. (NO. 41471466).
- **Core Team Member and Research Assistant** in the National Basic Research Program of China Project “Research on major strategic and technical issues that promote green development in China: Research on technical scheme and mechanism of energy conservation and emission reduction in China”, Jan 2012-Nov 2012. (NO. 2010CB955903).
- **Core Team Member and Research Assistant** in Environmental protection public welfare project “Research on the Mechanism and Program of Sustainable Production and Consumption Promoting National Ecological Civilization Construction”, Aug 2012-Aug 2014. (NO. 201209039).
- **Core Team** in the National Natural Science Foundation Project “Research on Low-carbon Policies for Urban Energy Utilization Based on Carbon Footprint Assessment”, Jan 2011-Nov 2012. (NO. 71003090).
- **Core Team** in Environmental protection public welfare project “Research on the Ways of Low Carbon City Development and Its Integrated Environmental Management Model”, Nov 2010-Jun 2012. (NO. 201009055).
- **Core Team** in Strategic Programme Fund for the Department of British Foreign and Commonwealth Office (SPF) Project “Carbon footprinting and modelling: the key to the low carbon city”. July 2010-Mar 2011.

Social work

- Member of second committee for Climate Change Branch in Chinese Society for Environmental Sciences;
- Membership in ISIE, International Emergy Association;
- As reviewers for Nature Food, Nature Sustainability, Energy Policy, Journal of Cleaner

Production, Ecological Modelling, Journal of Environmental Accounting and Management etc.

References



Karen C. Seto (My Post-doc advisor)

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Science

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<http://envfaculty.bnu.edu.cn/Public/htm/news/5/53.html>



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http://sourcedb.iue.cas.cn/zw/zjrck/yjy/200907/t20090702_1908547.html