Weitong Long

Wageningen University & Research
Environmental Economics and Natural Resources (ENR) group
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Quantitative researcher and economist with 6+ years of experience in integrated environmental-economic modelling and environmental impact assessment. Extensive experience applying quantitative modelling approaches to explore mitigation options towards sustainable food systems. Dissertation on assessing the impacts of food system transformation options (i.e., supply-side and demand-side measures, and environmental policies) at the macro level (i.e. regional, national, and global levels) using the integrated environmental-economic modelling approach based on the general equilibrium framework. 10 scientific papers have been published in peer-reviewed journals. Two first-authored papers, one published in **Environmental Science & Technology (SCI Q1, IF=10.8)** and the other in **Sustainable Production and Consumption (SCI & SSCI Q1, IF=10.9)**, along with a co-authored paper in **Nature Food (SCI Q1, IF=23.6)**. Seeking academic opportunities for the 2024-2025 academic year.

EDUCATION

PhD Candidate of Economics in Environmental and Natural Resource Economics Expected 09/2025
Wageningen School of Social Sciences, Wageningen University & Research *Wageningen, The Netherlands*
- Dissertation: Integrated environmental-economic modelling of sustainable food systems in China [Slides]
- Program: The Sino-Dutch Agriculture Green Development (AGD) PhD program [Link]
- Supervisor: Dr. Xueqin Zhu, Dr. Hans-Peter Weikard, Prof. Dr. Oene Oenema, and Prof. Dr. Yong Hou
- Awarded for the PhD Full Scholarship from China Scholarship Council (CSC) (64,800 €)

Visiting PhD Student 10/2024-01/2025
School of Veterinary Medicine, University of California, Davis *Davis, California, United States*
- Supervisor: Dr. Luis M. Peña-Lévano
- Awarded for the Junior Researcher Grant from Wageningen School of Social Sciences (WASS) (4,000 €)

Visiting PhD Student 09/2020-09/2021
College of Resources and Environmental Sciences, China Agricultural University *Beijing, China*
- Supervisor: Prof. Dr. Yong Hou

Master of Agriculture in Plant Nutrition 09/2018–06/2020
College of Resources and Environmental Sciences, China Agricultural University *Beijing, China*
- Dissertation: Nitrogen footprint of China's pig production and feeding mitigation measures
- Supervisor: Prof. Dr. Yong Hou and Dr. Hongliang Wang
- Awarded for the Excellent Master's Degree Thesis from the Chinese Society of Plant Nutrition and Fertiliser Science (Top 1% best master thesis in China)

Bachelor of Agriculture in Agricultural Resources and Environment 09/2014–06/2018
College of Resources, Hunan Agricultural University *Changsha, China*
- Dual Bachelor of Arts in English

RESEARCH INTERESTS

- Sustainable food systems and food-land-water-climate nexus
- Integrated environmental-economic modelling of food systems
- Environmental impact assessment of food systems

PUBLICATIONS

Citations (Google Scholar: 14/09/2024): Total = 170; H-index = 7; I10-index = 6

- **Peer-Reviewed Journal Articles (First Author)**

1) **Long, W.**, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (2024). Exploring sustainable food system transformation options in China: An integrated environmental-economic modelling approach based on the applied general equilibrium framework. ***Accepted at Sustainable Production and Consumption (SCI & SSCI Q1; IF=10.9)***. [Link]
2) **Long, W.**, Wang, H., Hou, Y., Chadwick, D., Ma, Y., Cui, Z., & Zhang, F. (2021). Mitigation of multiple environmental footprints for China's pig production using different land use strategies. ***Environmental Science & Technology (SCI Q1; IF=10.8)***, 55(8), 4440-4451. [Link]

- **Peer-Reviewed Journal Articles (Other)**

1) Tan, M., Hou, Y., Zhang, T., Ma, Y., **Long, W.,** Gao, C., ... & Oenema, O. (2023). Relationships between livestock density and soil phosphorus contents–County and farm level analyses. ***Catena (SCI Q1; IF=5.4)***, 222, 106817. [Link]
2) Tan, M., Hou, Y., Zhang, L., Shi, S., **Long, W.,** Ma, Y., ... & Oenema, O. (2023). Decision-making environment of low-protein animal feeding in dairy and poultry farms in China. ***Nutrient Cycling in Agroecosystems (SCI Q2; IF=2.4)***, 127(1), 85-96. [Link]
3) Tan, M., Hou, Y., Zhang, L., Shi, S., **Long, W.,** Ma, Y., ... & Oenema, O. (2022). Nutrient use efficiency of intensive dairy farms in China–Current situation and analyses of options for improvement. ***Agricultural Systems (SCI Q1; IF=6.1)***, 203, 103495. [Link]
4) Tong, B., Zhang, L., Hou, Y., Oenema, O., **Long, W.**, Velthof, G. L., ... & Zhang, F. (2022). Lower pork consumption and technological change in feed production can reduce the pork supply chain environmental footprint in China. ***Nature Food (SCI Q1; IF=23.6)***, 1-10. [Link]
5) Ma, Y., Hou, Y., Dong, P., Velthof, G. L., **Long, W.,** Ma, L., ... & Oenema, O. (2022). Cooperation between specialized livestock and crop farms can reduce environmental footprints and increase net profits in livestock production. ***Journal of Environmental Management (SCI Q1; IF=8.0)***, 302, 113960. [Link]
6) Wang, H., **Long, W.**, Chadwick, D., Zhang, X., Zhang, S., Piao, X., & Hou, Y. (2022). Dietary acidifiers as an alternative to antibiotics for promoting pig growth performance: A systematic review and meta-analysis. ***Animal Feed Science and Technology (SCI Q1; IF=2.5)***, 115320. [Link]
7) Tan, M., Hou, Y., Zhang, L., Shi, S., **Long, W.,** Ma, Y., ... & Oenema, O. (2021). Operational costs and neglect of end-users are the main barriers to improving manure treatment in intensive livestock farms. ***Journal of Cleaner Production (SCI Q1; IF=9.7)***, 289, 125149. [Link]
8) Wang, H., **Long, W.**, Chadwick, D., Velthof, G. L., Oenema, O., Ma, W., ... & Zhang, F. (2020). Can dietary manipulations improve the productivity of pigs with lower environmental and economic cost? A global meta-analysis. ***Agriculture, Ecosystems & Environment (SCI Q1; IF=6.0)***, 289, 106748. [Link]

WORKING PAPERS

1) **Long, W.**, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (2024). A modest mitigation target could address rebound effects of upcycling food waste as feed in China while safeguarding global food security. ***Submitted to a Peer-Reviewed Journal (Job Market Paper)***. [Main Text] [Supplementary information] [Slides]

WORK IN PROGRESS

1) **Long, W.**, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (2024). Food system transformation is key to achieving food security and environmental sustainability in China. ***In Preparation.*** [Proposal].
2) **Long, W.**, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (2024). Exploring transformation options in the food-land-water-climate nexus: towards achieving multiple Sustainable Development Goals (SDGs) in China. ***In Preparation.*** [Proposal].

TEACHING EXPERIENCE

ENR32806: Economic Modelling of Sustainability Challenges 2023 & 2024 Spring
Wageningen University & Research *Wageningen, The Netherlands*

- Assisted in teaching ENR32806: Economic Modelling of Sustainability Challenges (Master level, 6 ECTS) with Dr. Xueqin Zhu and Dr. Jack Peerlings
- Organised tutorials, provided support to master students with modelling and coding inquiries, and completed grading assignments

ENR22806: Principles of Climate Change Economics and Policy 2022 Winter
Wageningen University & Research *Wageningen, The Netherlands*

- Assisted in teaching ENR22806: Principles of Climate Change Economics and Policy (Master level, 6 ECTS) with Dr. Xueqin Zhu and Dr. Ina Möller
- Provided feedback on literature review papers of master students and completed grading assignments

MENTORING EXPERIENCE

Co-supervisor of Master Thesis 03/2022-05/2024
Wageningen University & Research *Wageningen, The Netherlands*

- Co-supervised Jia Zhou with Dr. Xueqin Zhu on the master thesis of "Exploring optimal cover crop management practice in China Loess Plateau by model simulation and mathematical programming"
- Co-supervised Huangshu Zhao with Dr. Hans-Peter Weikard on the master thesis of "Optimising county-level manure redistribution in Handan, China to balance economic and environmental benefits"
- Co-supervised Kehan Qiu with Dr. Rolf Groeneveld on the master thesis of "A computable general equilibrium model for evaluating the economic impact of biofuel policy in the Netherlands"

Chair of Master Thesis Ring 01/2022-12/2022
Wageningen University & Research *Wageningen, The Netherlands*

- Organised weekly sessions to help master students improve the clarity and conciseness of their thesis
- Facilitated constructive peer feedback to enhance the quality of master students' written work

MEMBERSHIP AND SERVICE

Professional Association Membership

- American Economic Association (AEA)
- Agricultural & Applied Economics Association (AAEA)
- Association of Environmental and Resource Economists (AERE)
- European Economic Association (EEA)
- European Association of Agricultural Economists (EAAE)
- European Association of Environmental and Resource Economists (EAERE)
- International Association of Agricultural Economists (IAAE)
- International Food And Agribusiness Management Association (IFAMA)
- International Society for Ecological Economics (ISEE)
- International Society for Industrial Ecology (ISIE)
- American Geosciences Union (AGU)
- European Geosciences Union (EGU)

Conference Parallel Session Chair and Discussant

- The 29th Annual Conference of EAERE in the session of "Theory models" 07/2024

Conference Abstract Reviewer

- The 2024 AAEA Annual Meeting in the area of "Production Economics" 02/2024

Conference Organising Committee

- The 6th and 7th Sino-Dutch Agriculture Green Development (AGD) Symposiums 2022 & 2023

CONFERENCE PRESENTATIONS

**** indicates presenter***

1) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (07/2024). Quantifying the environmental and economic impacts of feeding China's monogastric livestock with food waste: a general equilibrium approach. Oral presentation delivered at the **29th Annual Conference of EAERE**, Leuven, Belgium.
2) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (06/2024). Quantifying the environmental and economic impacts of feeding China's monogastric livestock with food waste: a general equilibrium approach. Oral presentation delivered at the **III Economy for The Common Good International Conference (ECGIC)**, Leeuwarden, Fryslân, The Netherlands.
3) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (05/2024). The asymmetric impacts of feeding China's monogastric livestock with food waste on food security and environment sustainability. Oral presentation delivered at the **9th Sino-Dutch AGD Symposium**, Wageningen University & Research, Wageningen, The Netherlands.
4) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (08/2023). Integrated Environmental-economic modelling of sustainable food systems in China. Poster presentation delivered at the **XVII EAAE Congress**, Rennes, France.
5) **Long, W.*,** Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (07/2023). Integrated Environmental-economic modelling of sustainable food systems in China. Oral presentation delivered at the **EAERE Summer School**, University of Graz, Graz, Austria.
6) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (02/2023). Environmental trade-offs of dietary structure change can be alleviated by cleaner technology and emission restriction. Oral presentation delivered at the **7th Sino-Dutch AGD Symposium**, Wageningen University & Research, Wageningen, The Netherlands.
7) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (10/2022). An environmental-economic framework for assessing the impacts of adjustments in crop and livestock systems. Oral presentation delivered at the **Wageningen School of Social Sciences (WASS) PhD Day**, Wageningen University & Research, Wageningen, The Netherlands.

SEMINAR TALKS

**** indicates presenter***

1) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (04/2024). Quantifying the environmental and economic impacts of upcycling food waste in China's monogastric livestock production: a general equilibrium approach. Oral presentation delivered at the **EconMonday Weekly Lunch seminar**, Wageningen University & Research, Wageningen, The Netherlands.
2) **(Invited) Long, W*.** (12/2023). Food system environmental policy analysis and method application. Oral presentation delivered at the **Plant Nutrition Weekly Seminar**, China Agricultural University, Beijing, China (Online).
3) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (06/2023). Exploring options for sustainable food systems in China: An integrated environmental-economic modelling approach. Oral presentation delivered at the **EconMonday Weekly Lunch seminar**, Wageningen University & Research, Wageningen, The Netherlands.
4) **Long, W.***, Zhu, X., Weikard, H.P., Oenema, O., Hou, Y. (11/2022). The global environmental consequences of adjustments in the food systems in China. Oral presentation delivered at the **EconMonday Weekly Lunch seminar**, Wageningen University & Research, Wageningen, The Netherlands.

TRAINING COURSES

EAERE Summer School in Resource and Environmental Economics 07/2023
University of Graz *Graz, Austria*

- Transnational and Cascading Climate Risks and Adaptation

Dynamic General Equilibrium Modelling Course 07/2021
Victoria University & University of International Business and Economics *Beijing, China*
- CHINAGEM, A Monash-Styled Dynamic Computable General Equilibrium Model of China

GRANTS AND AWARDS

- Junior Researcher Grant from WASS for the four-month PhD study at UC Davis (4,000 €; PI) 07/2024
- Travel Grant from the LEB Travel Fund to participate in the XVII EAAE Congress (750 €; PI) 06/2023
- Honorarium for co-organising the 6th and 7th Sino-Dutch AGD Symposiums (1,000 €; PI) 02/2023
- Educational backpack for taking courses and attending conferences from WASS (3,500 €; PI) 02/2021
- Research Grant from the Sino-Dutch AGD Program for data collection (8,300 €; PI) 12/2020
- PhD Full Scholarship from China Scholarship Council (CSC) (64,800 €; PI) 12/2020
- Excellent Master's Degree Thesis from the Chinese Society of Plant Nutrition and Fertiliser Science (Awarded to the Top 1% master thesis in China) 08/2020
- The First-Class Master Academic Scholarship of China Agricultural University (Top 1%) 10/2019
- The First Prize of China Agricultural University English Speech Contest (Top 1%) 11/2018
- The Third Prize of the National English Contest for Chinese College Students (Top 3%) 06/2015

SKILLS

- **Programming:** General Algebraic Modeling System (GAMS, advanced, e.g. model establishment), General Equilibrium Modelling PACKage (GEMPACK, intermediate), R (intermediate).
- **Modelling:** Applied general equilibrium (AGE) modelling, life cycle assessment (LCA), input-output (I-O) analysis, material flow analysis (MFA), and meta-analysis.
- **Software:** ArcGIS, Simapro, Latex, and Microsoft Office.
- **Languages:** Native to Mandarin Chinese. Strong reading, writing, and speaking competencies in English.

COLLABORATIONS

- **International Institute:** Wageningen University & Research, Eurofins-Agro, University of California, Davis, and Bangor University
- **Chinese Institute:** China Agricultural University and Huazhong Agricultural University

REFERENCES

Associate Prof. Dr. Xueqin Zhu
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