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General Areas of Expertise:

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Short Bio:

Dr. ZHANG Lixiao got his PhD degree in 2004 from School of Environmental Sciences, Peking University, and currently is professor and deputy dean of School of Environment, Beijing Normal University. He used to work as a research fellow in BOKU university of Austria from 2004 to 2005. Since September 2005, he has worked in Beijing Normal University. His research interests involve ecological economics, industrial ecology and urban ecology. He has published more than 100 papers with more over 60 papers indexed by SCI. He serves as associate editor for JEM, and editorial board members for journals as RCR.

Five Representative Publications:

Pang, M.Y., Zhang, L.X.*, Bahaj, A.S., Xu, K.P, Wang, C.B. 2018.Small hydropower development in Tibet: Insights from a survey in Nagqu Prefecture. Renewable and Sustainable Energy Reviews.81,3032-3040

Pang, M.Y., Zhang, L.X.*, Liang, S., Liu, G.Y., Wang, C.B., Hao, Y., Wang, Y.F., Xu, M.2017.Trade-off between carbon reduction benefits and ecological costs of biomass-based power plants with carbon capture and storage (CCS) in China. Journal of Cleaner Production 144, 279-286

Wang, C.B., Chang, Y., Zhang, L.X..*, Pang M.Y., Hao, Y., 2017. A life-cycle comparison of the energy, environmental and economic impacts of coal versus wood pellets for generating heat in China. Energy 120, 374-384

Zhang, L.X., Yang, Z.F., Voinov, A., Gao, S.L.2016. Nature-inspired stormwater management practice: The ecological wisdom underlying the Tuanchen drainage system in Beijing, China and its contemporary relevance. Landscape and Urban Planning.155，11-20.

Wang, C.B., Zhang, Y.Q., Zhang, L.X.*, Pang, M.Y.2016.Alternative policies to subsidize rural household biogas digesters. Energy Policy 93,187–195

FEWSTERN Symposium 2017 Presentation Title and Abstract:

Food-Energy-Water Nexus for Urban Sustainability: Conceptual Framework and Real Challenges

Abstract:
The rapid development of socio-economic systems and continuously proceeding urbanization in the world bring cities a prominent challenge to simultaneously satisfy the growing demands for food, energy, and water (FEW) resources. Emphasizing interlinkages between the three lifelines of material society, the nexus approach for food, energy and water governance has become a consensus in global community. However, consistent and explicit cognitions of the FEW nexus still lack, and sophisticated methodological modeling framework is urgent to establish. In this study, we present a comprehensive literature review to debate the current concepts of FEW nexus, analyze the elements, methods and foci for FEW nexus research. With regard to the concerns of efficiency and resilience of urban metabolism system, a three-hierarchy methodological framework of urban FEW nexus management was proposed, including the inherent interdependency of FEW, external environment (socio-economic-ecological context) of the FEW security, and FEW security optimization to achieve urban sustainable development goals. The efficiency for urban Finally, we shed light on three fundamental challenges for closing the gaps in FEW governance, to effective operationalization need addressing, i.e., the feasibility of science-policy integration, cross-scale inequalities, and path-dependencies in existing in infrastructure and management systemsocio-institutional practices.
Key words: urban sustainability; food-energy-water nexus; resilience