



7/11/2016

---

# Project Summary

## 项目简介

## Table of Contents

English Version .....	1
Chinese Version .....	2

---

## English Version

---

### **Eco-Urbanisation: promoting sustainable development in metropolitan regions of China**

This is a 3 year collaborative project between the University of Manchester (Professor Cecilia Wong), the Chinese Academy of Sciences (Professor Xiangzheng Deng of Institute of Geographic Sciences & Natural Resources Research and Professor Feng Li of Research Centre for Eco-Environmental Sciences) and Fudan University (Professor Shiyi Chen) to examine the dynamic interactive processes between urban development, resource consumption, and environmental impacts and to identify innovative practices and effective strategies to manage and plan for sustainable urbanisation in China.

The 'National New-type Urbanisation Plan' introduced by the Chinese government in March 2014 will result in the construction of 30 million housing units, with associated public amenities and infrastructure, by 2020. As the urban form and associated infrastructure are not locked in yet, this rapid development presents challenges and opportunities to move towards a new type of urbanisation that is financially and environmentally sustainable. This international collaborative project aims to significantly advance our understanding of both the theoretical and practical understanding of the dynamic interactive processes between urban development, resource consumption and environmental impacts. The study employs innovative methodological approaches to an embedded case study of the Beijing-Tianjin-Hebei Metropolitan Region, encompassing not only China's capital city, but also representing one of the very largest and fastest growing regions within the country and beyond.

Our research aims to make four main contributions:

- (1) integrating community level surveys on consumption patterns and other quantitative analysis into the modelling approaches at city and regional levels to take into account the behavioural patterns of individuals;
- (2) experimenting with the coupling of dynamic modelling approaches, e.g. agent-based models, cellular automata, to simulate stochastic behaviours at multiple scales (households, firms, environmental systems, and districts);
- (3) generating more robust ecological performance measures of urban development, supported by web-based visualisation toolkits, to encourage policymakers and planners to integrate eco-environmental analysis into their decision-making processes; and
- (4) designing an integrated policy framework that is multi-scalar, addresses complex, interrelated multi-processes and, crucially, can only be effective through a multi-layered 'meta-governance' approach incorporating multi-actor engagement and partnership.

## Chinese Version

### 城镇化生态转型：促进中国大城市地区的持续发展

“城镇化生态转型”项目为期三年，由中英两国合作进行，参与单位包括英国曼彻斯特大学（黄燕玲 Cecilia Wong教授），中国科学院（地理科学与资源研究所邓祥征教授；生态环境科学研究中心李锋教授）以及复旦大学（陈诗一教授）。本项目旨在研究城市发展，资源消耗和环境影响之间的动态互动过程，为促进中国城镇化可持续发展探索有效的管理战略和创新实践。

2014年3月，中国政府公布了《国家新型城镇化规划（2014-2020）》，预计在2020年前，将新建30万套住房及相关的公共基础设施。新的城市形态和基础设施尚未定型，快速城镇建设为实现经济和环境可持续的新型城镇化带来了巨大的挑战，也蕴藏着重大机遇。该国际合作项目旨在从理论和实践的角度推进我们对城市发展，资源消耗和环境影响之间的动态互动过程的理解。这项研究选取北京 - 天津 - 河北都市圈作为案例地区，该地区不仅是中国最重要的区域发展中心，也是全球规模最大，发展最快的大城市地区之一。

我们的研究旨在做出四项贡献：

- （1）整合社区级别的居民消费调研数据与其它定量分析，在城市和区域两级，构建基于个人行为模式的动态模型；
- （2）探索使用动态建模方法（例如多主体建模和元胞自动机模型），在多个尺度上模拟随机行为（家庭，企业，环境系统，地区）；
- （3）提出更稳健的城市生态绩效评估手段，通过基于网页的可视化工具包，促进政策制定者和规划师将生态环境分析整合到他们的决策过程中；
- （4）设计一个一体化的政策框架，协调整合生态城镇化管制中的多主体和跨空间尺度的复杂作用关系。