"City Intelligent Energy Network (CIEN), a Model of Smart Low-carbon City"--- Mr. Mingquan WANG, Associate Professor Level, National Registered Senior Engineer, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, China

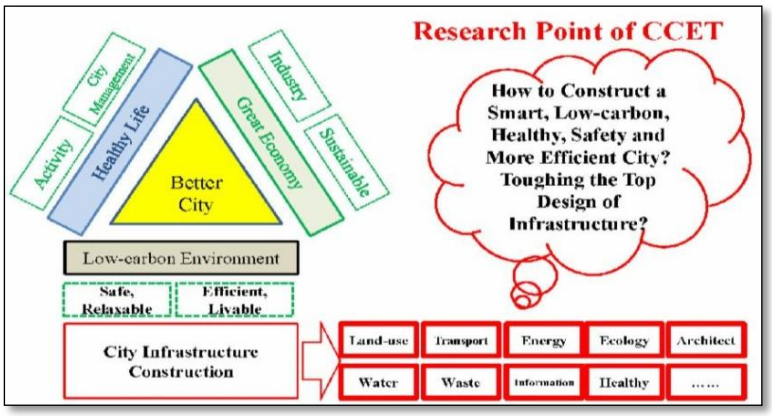
Introduction of Topic: CIEN, a Model of Smart Low-carbon City

The presentation will start with the low-carbon technology and study in China, then introduce the scientific research launched in Chinese Academy of Sciences, which tested in SARI. The Energy technology will be introduced, including the Distributed Energy system, and Natural gas CCHP Technology, the new energy technology which included in the CIEN project. All these theory and its field test model with advanced energy technology combined, will work together to make the city working sustainable. The Presentation will also introduce the 3-4 case study worked by SARI. These efforts will help to create Innovation Chain of CIEN in SARI, including:

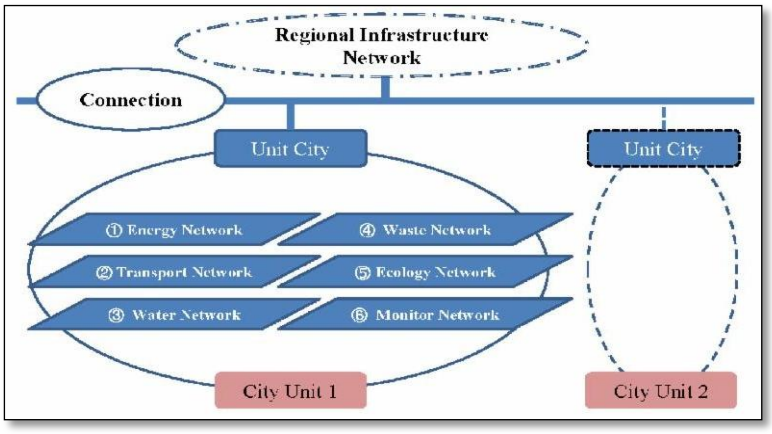
Chain 1: System Integrating and Solution Providing, Master Planning Designing, Demonstration, Technology Transfer, and Commercialization.
Chain 2: Key Technology Development, Gas Turbine, Heat Storage Materials and Devices, Electricity Storage Materials and Devices, etc.

Major Work 1: Smart Low-carbon Healthy City Model

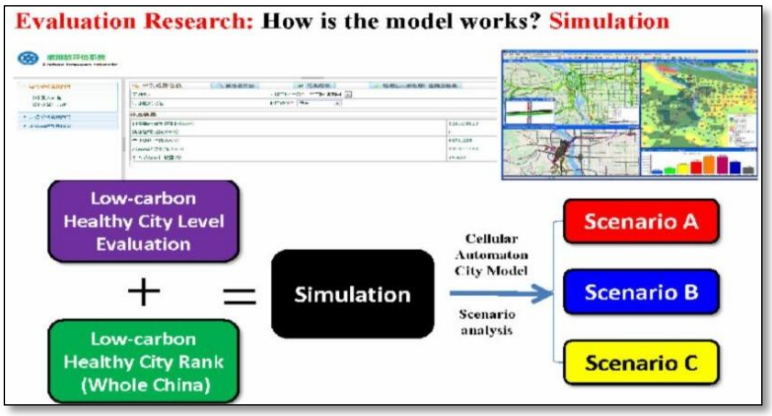
Part 1: Theory of Smart Low-carbon Healthy City



Part 2: Technology Solution

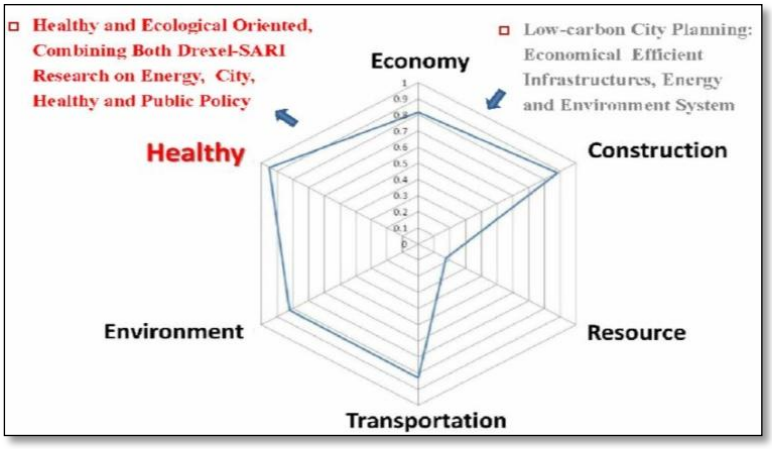


Part 3：Multi Scale Evaluation

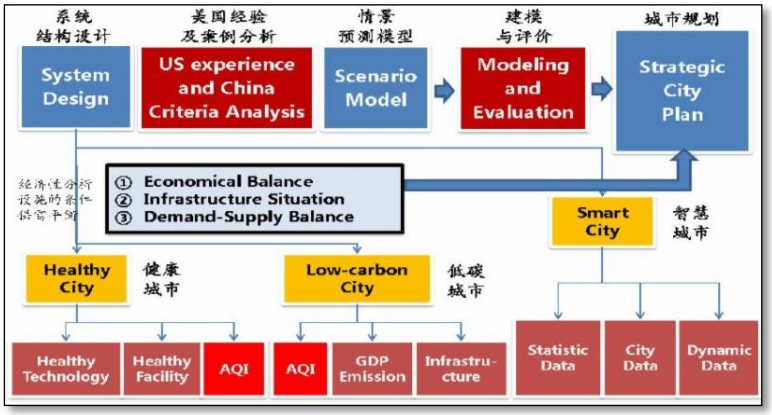


Major Work 2: Smart Low-carbon Healthy City Innovative Technology and Methodology

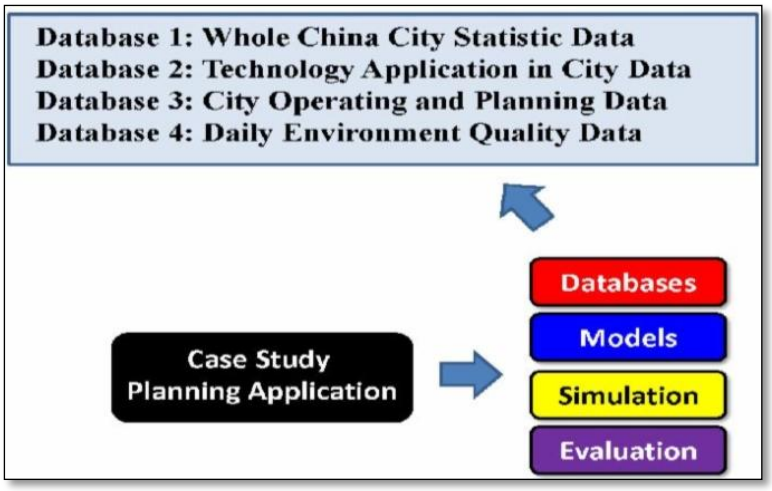
Part 1：Innovative and Scientific Points



Part 2：Technology Structure and Objective

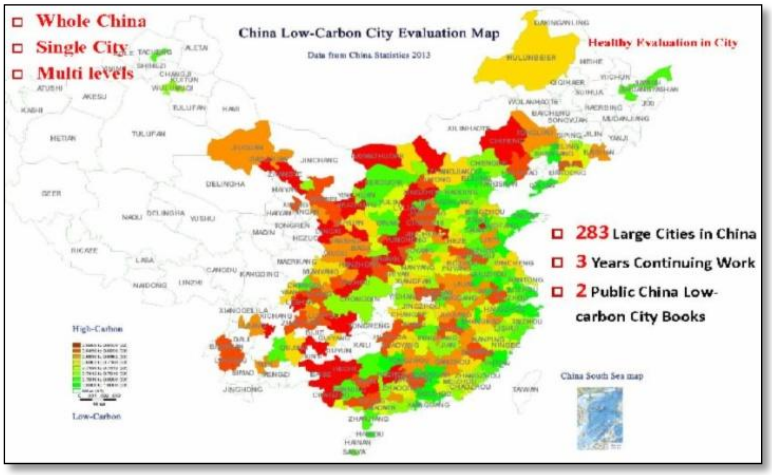


Part 3：Multi-Level Databases

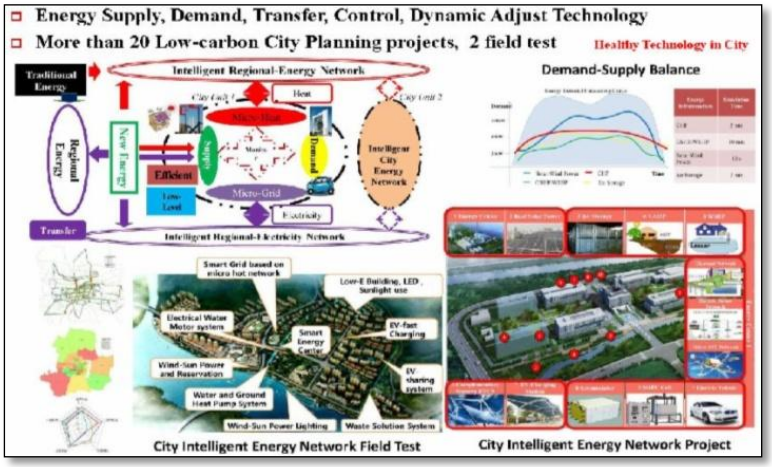


Major Work 3: Smart Low-carbon Healthy City Data Exploration

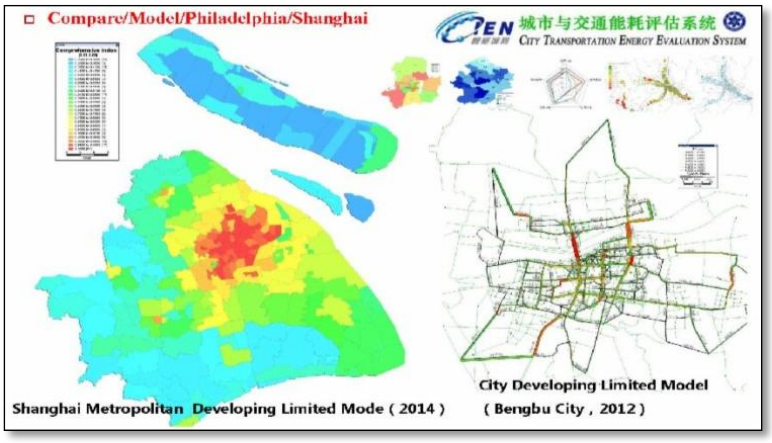
Part 1：Statistics and Stated Database



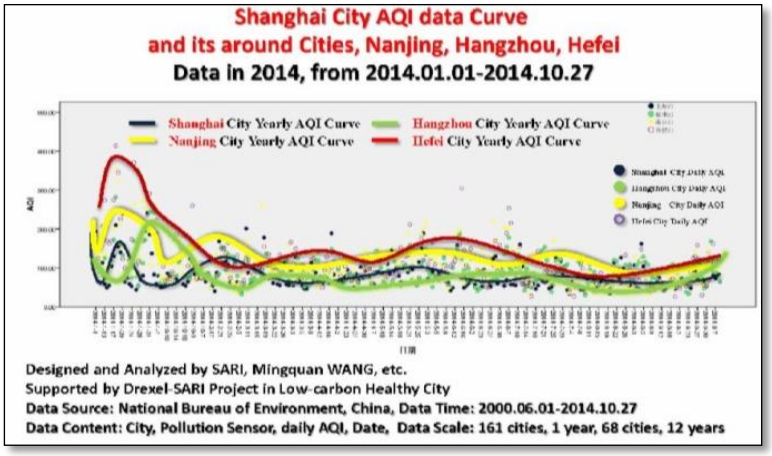
Part 2：Daily and Dynamic Database



Part 3：Whole City Planning Database



Part 4：Single Pool for Database



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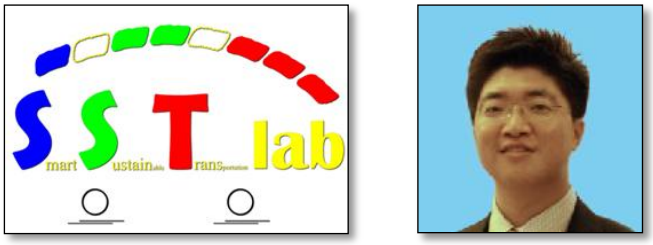

Mingquan WANG is Associate Professor Level, National Registered Senior Engineer of Chinese Academy of Sciences, who focus on Smart Low Carbon City Planning, Technology and Evaluation, with the worldwide view. He received his Ph.D. degree from both Tongji University (Jianfei ZHANG, and Dongyuan YANG is his Chinese Doctoral Supervisor) in Smart Transportation and Urban Planning, and University of California, Berkeley (Daniel Kammen, and Susan Shaheen is his United States Doctoral Supervisor) in Energy. Mingquan WANG has more than 14 years of experience of urban infrastructure planning and system design, and taken charge of around 40 central and local government projects, with more than US$ 10 million funding. Since 2001, he has participated in many applicable leading projects in China and the United States, pertaining to City Intelligent Energy Network (CIEN) Technology, Energy and Transportation Sustainable Planning, Low carbon City research, and Smart City Development with Energy System Design in China. During his work and study, he is exploring new ways to help the central and local governments to get sustainable development in the future. Based on these researches, he has co-published China Smart Low-carbon City Evaluation Report 2012 and China Smart Low-carbon City Evaluation Report 2013, together with twenty-seven papers published. His work is supported by around 10 sciences foundation projects, and 6 international research cooperation projects, to explore city and transportation development in China and the United States.

When Mingquan WANG Joined Chinese Academy of Sciences, he was selected as the Project Supervisor. He is formerly a president of the Chinese Scholar Union, and has worked for several government departments. The background of his research and government work experiences make him to take more responsibility to create bridge between actual urbanism projects and the new technology from both China and other places in the worldwide.

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