



ENERGY PLANNING FOR LOW-CARBON CITIES: research on the feasibility and roadmap for city to reduce carbon emission

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GENERAL ISSUES

- Over the past century, the earth's climate system is experiencing a significant change with the main feature of warming. IPCC says that human activities is the main reason of the climate warming in nearly 50 years. Climate change will continue to pose significant challenges to human society.
- Cities need to change:** In order to achieve global scenario of 2 degrees temperature control target, global carbon emissions need to peak by 2020. By 2050, global greenhouse gas emissions need to reduce 50% compared to 1990. Among this the developed countries need to reduce 80% emissions, meanwhile, developing countries must change the development mode, open up a new development path of low carbon.
- We should study on the reasonable goals and development direction of infrastructure construction, industrial model adjustment, future lifestyles and usage models. Then, propose technology approaches and policy recommendations in the technical, economic and social fields to provide a reference for urban city to develop strategies and measures addressing climate change.

BERC activities:

Research on the feasibility and roadmap for city to reduce carbon emission

The research mainly contains the overall scale and reasonable construction speed of building stock and infrastructure as well as the influence of consumption patterns and lifestyles on building energy consumption and carbon emissions.

We should carry out the analysis on the energy consumption and scenario analysis to get the reasonable overall scale limit and construction speed of building and infrastructure.

Compare and analysis different lifestyles, consumption patterns and their corresponding energy costs and carbon emissions. Then provide appropriate development approaches and policy recommendations combining with different national conditions.

Main research process:

Situation analysis on key issues

Conduct questionnaire survey and typical case analysis

Building Energy Modelling and scenario analysis

Put forward the optimized policies and measures

OPEN POINT QUESTIONS AND PROJECT IDEAS

- What do you think is the low carbon way of lifestyle and consumption?
- How to determine reasonable urban scale, including both the construction and infrastructure scale?
- How to choose the appropriate scale and mode of the urban energy and infrastructure?
- What are the characteristics of building energy consumption and carbon emissions? What is the difference between different countries?
- When is the arrival time of carbon emissions peak by different industries?
- How to adjust industrial structure for low carbon development, especially for cities in developing countries?
- How to reduce the per capita carbon emissions as much as possible?