Low Carbon Development in Less Developed Cities in China

Broad Prospects of Cooperation

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About IUE and CASS

Chinese Academy of Social Sciences(CASS) is the highest academic organization in the field of humanity and social sciences, and a national think tank of comprehensive study of China

IUE is one of the leading institute under the CASS in the field of urban and environmental studies, particular dedicate the study of theories and policies of climate change, sustainable development, low carbon urbanization and urban strategic planning

IUE overtake many projects and achieve fruitful accomplishments. Some of the research proposals were adopted by the central and local governments

IUE has highly international reputation and establish partnership with international organizations, universities in the area of climate change and low carbon development

Development of Low-Carbon City

Facing the Challenges of Global Climate Change and Sustainable Development

The central government has announced a carbon reduction target, which is to reduce GHG emissions per unit GDP by 40%-45% in 2020 compared with 2005 level. Development of low-carbon cities and towns is a key measure to achieve this target.

Low-carbon development is also a practical necessity for cities and towns in China to save energy, reduce carbon emissions, restructure economy, protect environment, preserve ecological diversity.

The central government has issued a series of policies and measures to promote development of low-carbon cities and towns, and got wide and positive support from local governments.

Guangyuan City Post-Earthquake Reconstruction

towards low-carbon economy

The local government entrusted the Institute for Urban and Environmental Studies, under the CASS, with conducting, researching and suggesting a plan to reconstruct and develop it into a low carbon city. Part of the funding for this initiative also came from the United Kingdom's Department for International Development .

The CASS project will provide recommendations to revise several of Guangyuan's reconstruction efforts, including:

1) the Post-earthquake Reconstruction Master Plan,

2) Reconstruction Urban Planning,

3) the Urban & Rural Housing Reconstruction Plan,

4) the Industrial Development Plan,

5) Policy Recommendation for Guangyuan's 12th Five Year Plan.

Overview of Guangyuan City

Guangyuan's economy is based on a diverse array of heavy industry, as well as mining and agriculture.

On May 12, 2008 a magnitude 7.9 earthquake occurred. 4,822 people were killed, 28,245 injured. The earthquake resulted in the city suffering economic losses of around 127 billion yuan. It damaged more than 90 percent of the local houses and destroyed the power, telecommunication and water supply infrastructure.

16,300 square kilometers, with a total population of 3.14 million
427,000 people with per capita net income of less than 1,196 yuan living in poverty
110,000 people live in rocky mountainous areas without basic living conditions
100,000 resettlers from reservoir inundation areas also live under very poor living conditions

Guangyuan's GDP is 32.187 billion yuan.

The per capita GDP reaches 12,313 yuan (or about $1,859), which only accounts for 41.5% of the national per capita GDP.

The disposable income of urban residents is 12,509 yuan, while the net income of peasants 4,036 yuan respectively (or about $ 1,889 and $609 respectively), which are equivalent to 4% and 1.3% of U.S. residents' annual income in 2010, 4.9% and 1.6% of British residents' annual income in 2010 and 4.5% and 1.4% of Japan residents' annual income in 2010.

Exploring a trailblazing path in low carbon development

Low-carbonization of Energy Mix

Abundant reserves of natural gas, wind energy, hydropower, solar energy, geothermal and other clean energy resources.

The proven natural gas reserves in Guangyuan reach 361 billion cubic meters.

Baozhusi Power Station of Huadian Group

Geothermal comprehensive agricultural development and tourist resort park of Yuanba District

296,000 biogas digesters built already, the local government decided to encourage all industries to switch from coal to natural gas, Ratio of nonfossil energy in primary energy consumption reached 20% in 2010.

Low Carbonization of the Leading Industries

Expand and strengthen clean energy, agriculture and by-product processing, electrical machinery, new materials and other industrial sectors.

Eliminate backward production capacity , close down 55 small enterprises such as small coal mines, iron blast furnaces, etc.,carry out integration or conversion of 79 enterprises, and "coal to gas conversion" of 317 enterprises.

All of the 64 new investment projects of over 100 million introduced after earthquake are all in line with the requirements of low-carbon development.

The energy consumption per unit GDP of the city fell by 6.12%.

Chemical oxygen demand, ammonia nitrogen and sulfur dioxide emissions decreased.

Optimization and Energy-saving Project Aluminum Co., Ltd.

Waste heat power generation of Conch Cement Co., Ltd.

Low-carbonization of resident consumption

Passed the proposal to set August 27 of each year the "Guangyuan Low-carbon Day."

33 bike convenience stations were established in the city's urban areas, with 5,000 convenience bikes put in place.

100% of the taxis and 96% of buses have completed the oil-to-gas conversion, calculated by replacement gasoline, reducing emissions of 4,230 tons of carbon dioxide, 128 tons of sulfur dioxide and 906 tons of carbon monoxide.

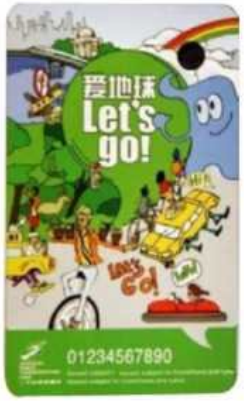
More than 60,000 light-steel-structured and wood-structured housings with residential building character of North Sichuan and strong seismic performance were built in the Longmenshan earthquake fault zone, with the average saving for each household of 30,000 yuan.

Solar water heaters are used by city residents

Eco-friendly travel, and low-carbon living

Increase carbon sink capacity

Ecological development shall adhere to the low-carbon and eco-friendly practice, conscientiously carrying out the "Grain for Green Project", "Natural Forest Protection Project" and other ecological projects, and vigorously promoting the ecological restoration and reconstruction, and actively creating a "National Forest City", fully implementing the comprehensive management over urban and rural environment, and vigorously promoting the environmental protection, eco-friendly transportation, waste utilization.



The 20,000 low-carbon transportation cards of the first batch of Sichuan Guangyuan Carbon Indicators World Expo "green travel" were publicly issued for Shanghai World Expo.

10,000 tons of Sichuan Guangyuan Carbon Indicators "Guangzhou Green Travel Low-carbon Card for the Asian Games " were publicly issued for the Asian Games in Guangzhou in 2010

Overview of Guiyang

Important city in southwest China, with a population of 4.32 million.

In 2011, annual disposable income per capita is RMB 19420.14, ranked 32 out of 36 big cities.

First pilot city for ecological construction of circular economy.

Among first group of low carbon pilot cities.

Among first group of pilot cities for construction of resources recycling and utilization system.

Among first group of pilot cities for low carbon transportation system.

Pilot city for comprehensive reform of service industry.

Pilot city for demonstration of financial policies supporting energy conservation and emission reduction.

Guiyang's Ten Actions to Build a Low Carbon City

Action One】 Develop low carbon tourism industry

Action Two】 Establish low carbon industrial system

Action Three】 Strengthen appraisal of enterprise's performance on energy conservation and emission reduction

Action Four】 Facilitate adjustment of energy structure

Action Five】 Establish low carbon transportation system

Action Six】 Develop low carbon green building

Action Seven】 Strengthen forest administration to increase forest sequestration

Action Eight】 Improve waste recycling and treatment

Action Nine】 Encourage and guide low carbon way of life

Action Ten】 Government take the lead in saving energy and reducing costs

Construct ecological city

Ecological city projects, energy saving of 60%

Vigorously promote rural renewable energy with village biogas at its core

Rural household biogas construction

large and medium-sized biogas and power projects in farm

Use of straw to produce new fuel charcoal and farms use the manure production of organic fertilizer

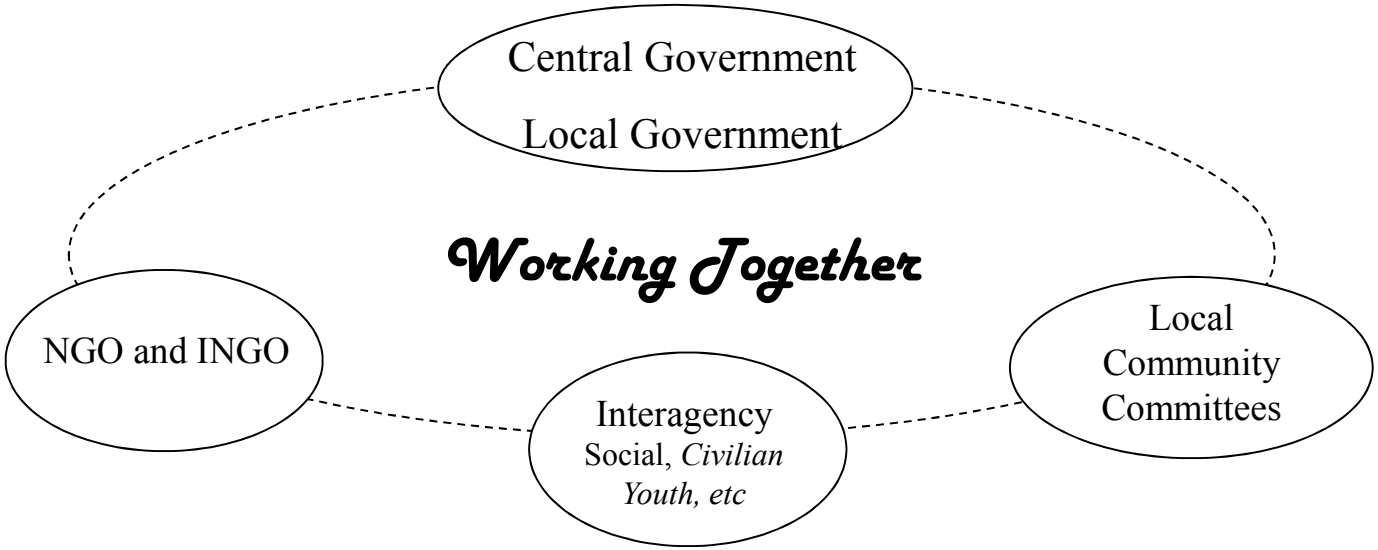
New particle fuel charcoal

Manure production of organic fertilizer

Rethink of These Two Projects

1. Cities and towns are the major energy consumers and carbon emitters in China. To develop low-carbon towns is a significant measure facing the global climate change, and also necessary for the sustainable development.
2. Low-carbon cities development is fundamentally based on the philosophy of sustainability. Low carbon cities development in western less development areas as important as developed areas in China
3. Many outstanding practices have emerged in the course of development of low-carbon cities

Cooperation Mode



4.There are technological and social policies and system pathways for low-carbon cities development, and these measures should be implemented in a integrated manner.

As communication platform to share best practice and technology

Proving technical, policy and consulting service for local governments

Capacity building for cities in the area of low carbon development

A subregional partnership is urgently needed

The North-East subregion has witnessed tremendous economic growth in recent decades at the cost of environmental quality

In the broader context of attaining higher eco-efficiency in the subregion, achieving low-carbon development in the cities is of utmost importance

NEASPEC has already commenced its role as a focus of information platform for collecting, analyzing and distributing strategies and plans for low carbon, green cities in North-East Asia, and as a catalyst for capacity development programmes among cities

Regional cooperation needs to be stepped up to enable member states to adopt green growth policies and initiatives that will help meet their development goals

Low-carbon City should be a potential programme of subregional cooperation in ENEA

Thank you!

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