Introduction on Shenzhen International Low Carbon City

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November 11\textsuperscript{st}, 2010, the “3rd International Conference on Next Generation Infrastructure Systems for Eco-cities” was held in Shenzhen.

Vice mayor Tang Jie of Shenzhen and Mr. Van Zeeland, Consul General of Consulate General of the Netherlands in Guangzhou suggested the initial idea of promoting G-G cooperation.
China Prime Minister Li Keqiang and European Commission President José Manuel Barroso signed “Joint Declaration on The EU-China Partnership on Urbanization” on May 3, 2012.

Xu Qin, mayor of Shenzhen, spoke on EU-China Urbanization Partnership High Level Conference.
Background

21 August 2012, Shenzhen International low-carbon city launched. Secretary Wang Rong, Mayor Xu Qin Attend launching ceremony.
Background

As an important part of China’s first National Low-carbon Day, the first ShenZhen International Low-carbon City Forum was launched on Jun 17th, 2013. Shenzhen International Low-Carbon City Forum is hosted by NDRC, MOHURD, and ShenZhen government.
More than 1400 guests participated the forum to explore new low-carbon development within the context of new urbanization.

ShenZhen signed a number of projects with Eindhoven in the Netherlands, Low Impact Development Center in the United States, Auckland in the New Zealand as well as Beijing Energy Investment Co., LTD, etc.
Shenzhen and Amsterdam signed the cooperation letter of intent about Shenzhen international low-carbon city project in November 2013.
APEC Low Carbon Model Town

Participated in the kick-off meeting of promotion activity for APEC low carbon model town held by National Energy Administration in July.

Participated in high-end conference of China's low carbon urban development held in Singapore in November 2013.

One of the first 17 storage projects.
Pingdi Overview

Project location:
Pingdi Street
Longgang District

Planning area:
53.4Km²
urban ridge
The region of pearl river delta has formed a clear urban ridge which is along the coast and extends to Macao.

Pingdi is the starting point of the urban ridge
Strategic Positioning

- Climate friendly city area
- Low carbon industry clusters
- Leading area of low carbon way of life
- Zone of low carbon international cooperation
Overall Development Strategy

There are at least 100 cities in China put forward slogan of "low-carbon city"

The world does not have a low carbon city in real sense

The goal:

2005  ton/ten thousand Yuan GDP:  0.59
2015  ton/ten thousand Yuan GDP:  0.36  (decreasing 39% than 2005)
2020  ton/ten thousand Yuan GDP:  0.33  (decreasing 45% than 2005)

HOW TO REACH?  ??  ??

Four characteristics of the low-carbon city

- Low-carbon urban regional planning and construction
- Low-carbon urban energy structure
- Low-carbon urban production process
- Low-carbon urban life consumption
Vision: Six Planning Features

1. Industry and city merged layout
2. Site-specific carbon sink network
3. Bus-preferable green traffic
4. Intensive, highly efficient, and low-carbon municipal
5. Energy-saving green buildings
6. Convenient, livable, and low-carbon community

Implementation path: top-down

Core promoter region (1 square kilometers) → Extension area (5 square kilometers) → Low-carbon city (53 square kilometers)
Choice of Industries

Low-carbon Health Industry

Low-carbon Urban Agriculture

Low-carbon Tourism Industry

Low-carbon Manufacturing

Low-carbon Services

Low-carbon Creative R&D Industry

Development of industrial restriction standards:
Restrictions on energy saving and environmental protection, investment intensity, labor quality, output value, taxations, etc.
Key Industry Project

- Distributed energy center
- Space ecological technology research Centre
- The Sino - US low carbon buildings and community innovation experiment center
- the Sino – Dutch eastern green
South center is the key carrier of the corporation between our city and astronauts; Realize the integration of relevant international and domestic resources and collection of scientific research, industry, education and science functions, to build international first-class space base.
Location: Plant 2# and 5# of Longkou Industrial Zone; Satisfy needs of Scientific research and office by idle plant transformation; The design work of Laboratory has completed and intends to further perfect based on suggestion from the investment institutions.
2. Institute of Space

Shenzhen and Harbin Institute of Technology as well as astronaut center have reached an agreement to build the institute of space together.
3. Aerospace Science Park

Shenzhen is taking an active part in developing the preliminary design program and planning adjustment of aerospace science park with the support of astronaut center.
(B) Distributed Energy Center

Land size: 3 million square meters. Shenzhen Gas Corporation Ltd. and Beijing Energy invest around $1.3 billion for construction. The project will be accomplished in 2015.
(B) Distributed Energy Center

Construction Content:

- **Sewage and rubbish processing:**
  The daily wastewater treatment capacity is 20 tons which is magnetisable thermal decomposition waste disposal, the annual total power generation capacity is 3 million kwh.

- **Distributed energy:**
  Gas engine total capacity is 54MW, 14MW (5MW solar power, 9MW wind power); 0.5MW the battery storage systems.

- **Smart grid:**
  Built intelligence user management platform
based on natural gas distributed energy station, supplementary with renewable energy, focused on intelligent scheduling, to solve the electricity, heat, cold and other energy needs as well as waste disposal, to construct a energy system of green, low-carbon, energy-saving and intelligent.

The project performance:

1. The utilization of clean energy approximates to 100%
2. The usage rate of renewable energy sources approximates to 20%
3. The comprehensive utilization of energy is greater than 80%
4. CO$_2$ emission reduction of energy station every year: 244,000 tons
5. Emission reduction rate of area to conventional park is greater than 70%
6. The smart grid penetration approximates to 100%
Corporate with Lawrence Berkeley National Laboratory to do relevant research on low-carbon building and community so as to promote industrial development of low carbon building.
Goal:
Attract innovative talents around 1000 within 5 years
Completed ecological related training 200 thousands
Achievements of R&D independent or trade transformation reach 300
Experiment and demonstration project more than 40 within 10 years
Gather scale of low-carbon building industry reach 5 billion in 10 years
Invested by Shenzhen energy, processing garbage 5000 tons/day, power output 700 million/year.

**Project performance:**
- The usage rate of renewable energy sources: 100%
- The treatment rate of sewage: 100%
- The innocuous rate of waste conversion: 100%
- The step utilization of energy: 100%
- The ratio of green building: 100%
- The intensive utilization of land: 100%
Based on eastern garbage power plant, planning and construction industrial park of energy saving and environmental protection. Consulting work on industry development was developing by IBM, at the same time, actively introduce famous international institutions to invest.
Attitudes to low-carbon life
Start from dribs and drabs

Walking  Bicycle  Clean energy

Smooth, efficient, intensive, low-carbon transportation

Ecological water cycling

Sign conventions on low-carbon civilization

1. Commitment to practice the "Shenzhen Low-carbon Convention";
2. (enterprise) am (is) willing to spend time in participating the park’s low-carbon demonstration activities;
3. I (enterprise) am (is) willing to share the low-carbon experience with others;
4. ......

Signature: XXX

Core of the low-carbon city: people’s conceptions and actions
Low-carbon Living Facilities

Give publicity to low-carbon life concepts and methods and build a livable new city. Meet the high quality life standards in Living, education, health care, leisure, shopping, etc.
Apply the world's most advanced low-carbon technologies
Achieve ultra-low carbon or zero carbon emissions
Create the concept of low-carbon city and make Low-carbon city landmark
The center of display, trade, preaching, education about low-carbon
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International Cooperation

Key points: Industry, Technology, Talents, Capital, Management and planning

In-depth cooperation, orienting, drawing up guidelines of the program on the basis of pre-planning.

To establish the government Coordinating council and joint with relevant government departments and scientific research institutions.

A variety of open financing channels and ways & Innovation in founding model.

Introducing advanced industries of the Netherlands and cooperating with its leading enterprises.

Advanced technology of the Dutch will be introduced to complete the great leap forward development.

A communicable cooperation team made up of cutting-edge talents from new industries of our two countries.
EU Transformation Projects

Invited by the Amsterdam city government to participate in the EU's Intelligent Cities initiative "transformation" Project Advisory Council to share experience.
Sep 2012, Shenzhen DRC with WALCC paid visit to Netherlands, Finland, Sweden, Austria, German, UK, France, etc. for seeking experience on low carbon economy development, low carbon comprehensive energy utilization, green building, Intelligent city and reach many cooperation intension.

Attended 3rd world low carbon city development forum and decided to hold the 4th at Shenzhen in 2013.
Nov-Dec of 2012, Shenzhen held 4 times of workshop with Netherlands, Vice city mayor of Eindhoven, Waternet, experts of waste disposal plant, professors from Delft Uni visited Shenzhen.

Officials and experts from Sweden, German and UK paid visit to Shenzhen as well.
International Low-Carbon Summit

The second ShenZhen International Low-carbon City Forum: June 10-11, 2014
Thanks

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