Prospect of Finland-China cooperation on ecocity

Xinmin Zhang

Ph.D / Professor

Tel：358-9-7240020

E.Mail：finkeji@kolumbus.fi

Chinese Embassy in Finland

OUTLINE

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1 Background of Ecocity

1.1 Harmonious relations between mankind and nature

1.2 Integration of environment, resources, technology and people

1.3 Growing trend of global development

1.4 Trend of China’s development

1.2 Integration of environment, resources, technology and people

- Rapid development of science and technology
- Growing awareness of environmental protection and ecology
- Build environmental-friendly society
- Return to humanistic spirits: people-oriented technology

Nokia:Connecting People.

1.3 Growing trend of global development

- Climate change
- Low-carbon society
- Environmental protection and ecological protection
- Diversity
- Harmonious development
- ……

Ecocity is one of the solutions

1.4 Growing trend of China

1、China is still and will be in great momentum of urbanization and industrialization in a long period of time.

- 2008年底中国城镇化水平已经达到45.7%，城镇人口已达6.07亿。城镇化率年均提高约1%，每年将有1500万左右的农民进入城镇。
- 预计到2010年，城镇化水平约为47%，2020年达到56%-58%。

1.4 Growing trend of China

2、 Shortage of natural resources has become a critical issue for urban development

- 建设占用耕地平均每年达300万亩，2007年，人均耕地面积1.38亩，仅为世界平均水平的1／3；到2020年，人均耕地将下降到1.2亩以下；
- 人均水资源量仅为世界平均水平的1/4，2/3的城市缺水，其中114个城市严重缺水；
- 人均石油、天然气储量远低于世界平均水平。

1.4 Growing trend of China

3、Eco-environmental problems pose a threat to life quality of urban residents

- 2007年，113个大气污染防治重点监测城市中，55.8%的城市居民生活在三类及劣三类大气环境质量条件下；
- 全国城市生活垃圾累积堆存量60亿吨，占地30多万亩，近年来平均以每年4.8%的速度持续增长；
- 水环境虽局部好转，但总体上存在污染加重的趋势，水域污染已从陆地蔓延到近海水域。

1.4 Growing trend of China

4、Extensive urban development is no longer accepted

- 城市蔓延威胁到18亿亩耕地保护红线。
- 以珠江三角洲为例，其GDP每增加一个百分点要消耗耕地5.08万亩（ 8340 acres ），目前已陷入用地紧张、环境容量趋于饱和的境地。

1.4 Growing trend of China

5、Energy production and support system are in great pressure.

- 2006年，中国287个地级以上城市市区的能源消费量占中国总能耗的55.48%，二氧化碳排放量占中国总排放量的54.84%。
- 中国建筑耗能占社会商品能源总消费量的25%左右，最终可能达到35%。预计到2020年中国将新增建筑面积300亿平方米，在城镇建筑建造和使用过程中，将直接消耗中国总能耗的30％。
- 中国机动车燃油需求量已接近总油耗量的1/3，成为未来石油需求增长的主要因素。

Summary

- ✓ Low-carbon Ecocity is a Energy-saving, Enviroment friendly city, based on low enernry consumption, low-pollution, low-emission, is a brand new model of city development.
- ✓ It meet the trend of Green Econom and Low-carbon Ecology and the reqirement of Tokyo Protocol,is the important measure to tackle Climate Change
- ✓ Urgent demand and great significance to sustainable development of Chinese cities.

2 Current situation of ecocity construction of China

2.1 Reach a consensus on ecocity

2.2 China’s advantages over ecocity construction

2.3 Current situation of ecocity

2.1 Reach a consensus of ecocity

- **Ecocity become the consensus on city's planning and construction in China.**没有其他任何一种城市发展战略像生态化城市发展战略这样获得如此普遍的共识，成为中国城市未来发展的必然选择。
- **It become the new Model of city's development.** 天津、唐山、株洲、合肥、深圳、保定、日照等城市不约而同地提出了建设低碳生态城的目标，其中有的已经启动生态城的规划建设，有的开始着手编制向生态城转型的工作方案。
- **In 2008，Ecocity became the theme of city planning in China.**

2.2 China's advantage over ecocity construction

1. China is in the process of rapid urbanization, with late-development advantage of large-scale construction of ecological city.与发达国家相比，建设成本相对较低。欧美等发达国家降低一吨二氧化碳气体排放所需的投资在200欧元以上，而在中国这个数字可能仅为1/5甚至更低。
2. The ancient Chinese philosophy of Human and nature united, 10,000-year of farming civilization, and traditional culture in the concept of ecological civilization.

2.2 China’s advantage over ecocity construction

3. implementation of the Garden City, Landscape City, historical and cultural city and other forms of urban development has laid a good foundation.
4. Deepen the international cooperation.

2.3 Current situation of China's ecocity

- Eco-city construction boom has been the rise in the world. 丹麦、瑞典、德国、英国、日本、澳大利亚、巴西、美国、南非、新加坡、韩国、阿联酋等国家都相继开展了生态城市规划发展的理论研究和实践探索，并取得了积极的成效。
- China is the world's most active country to explore the construction of eco-city.

2.3 Current situation of China's ecocity

The seventh ASEM summit, Beijing in 2008. Wen Jiabao said: "To promote the sustainable development of Asian and European cities, China proposes the establishment of an ASEM Eco-City Network to facilitate exchange of experience, to promote the concept of ecological civilization ".

"Asia-Europe eco-city network" （www.ae-eco-city.net） Web site lanched on 2010.9.21.

2.3 Current situation of China's ecocity

In recent years, China gradually carried out various forms of cooperation in building ecological cities, respectively with Singapore,UK, Sweden, Finland, Italy and other Asian and European countries, from government to the enterprise level.

March 30, 2010, Vice-President Xi Jinping made a special trip to visit the world famous Hammarby eco-city during his visit to Sweden.

2.3 Current situation of China's ecocity

- China-Singapore Tianjin Eco-city, Caofeidian Eco-city, Shenzhen bright eco-city, and other cities are under t he plan or construction.
- 600 major cities in China, Chinese government plans to build 100 cities into environmentally friendly cities, namely eco-city.
- the Ministry of Housing and Construction has selecte d 13 city for pilot.

China is moving toward the world‘s largest country with most eco-cities and with fastest pace.


保定（1100万人）
▶再开发型
▶可再生能源、节能、减排、低碳技术、低碳相关产业
吐鲁番（25万人）
▶新城市型
▶指标体系、节水、节能、环境保护、历史文化的保护
北川（7万人）
▶新城市型
▶低碳方式、低碳环保社会
延庆（29万人）
▶再开发型
▶新能源、环境产业园、循环型经济、垃圾处理
崇云（43万人）
▶再开发型
▶新能源、节能、污水处理、环境重建
曾纪甸（100万人）
▶新城市型
▶指标体系、节能设计、新能源、水资源、城市安全、循环型经济
中新天津（35万人）
▶新城市型
▶指标体系、生态适应性评价、环保交通
德州（564万人）
▶再开发型
▶新能源、关于环境的宣传和教育、责任评估制度
长沙（647万人）
▶再开发型
▶旨在兼顾资源循环和环境负荷减小的样板模型
东莞（826万人）
▶再开发型
▶生态工业园
安吉（45万人）
▶再开发型
▶污水处理、垃圾处理、节约型村落、循环型经济、环境教育
深圳（877万人）
▶再开发型
▶环保建筑、生态绿化、环保交通
崇南（241万人）
▶再开发型
▶天然气的综合利用、地盘沉降地区的环境重建、贫困阶层居住区的改造

Ecocity project in China（Incomplete）

- **中新天津生态城**　2008年一，中国-新加坡
- **曹妃甸国际生态城**　中国-瑞典SWECO公司,2007-
- **北京 门头沟**妙峰山镇“中芬生态谷”中国-芬兰(VTT)
- **天津 南部**葛沽镇　芬兰生态城　2007-　？
- **江西 共青城**　中国-芬兰　2009　DigiEco-city
- **江苏 丹阳**　中国-芬兰　2009 DigiEco-city
- **江苏** 无锡“中瑞低碳生态城”中国 瑞典，2010.7
- **上海**　崇明岛东滩生态城，2005一，英国 奥雅纳(ARUP)
- 廊坊生态城、重庆万州生态城、深圳光明生态城，湖南株洲市,合肥湖滨生态城

Tianjin Ecocity

- In 2008, China and Singapore decided to cooperate on “Sino-Singapore Tianjin Eco-City”, aiming to provide a sustainable urban development model that can be implemented and reproduced, for China and the other countries.
- Area: about 30 square kilometers.
- the world's first inter-State cooperation in development and construction of eco-city.

Sino-Singapore Tianjin Ecocity

- 2012, basic infrastructure. 2013, the core part. In 34 square Km empty land.
- complete all projects in 2020, built a city of 35 million people. The total investment 30 billion **€**. The proportion of energy saving building 100%, the ratio of natural energy 20%.
- May 2010, the Japanese Hitachi agree to provide environmental technologies and solutions,Especially smart grid technology. Mitsui Fudosan decided to participate in housing construction, 2650 residential sales. completed in 2014.

Tianjin Ecocity

- April 2007, Tianjin Eco-city seminar. (1) China is more suitable for the construction of the world's first true ecocity; (2) ecocity is a product that will be exported from China to other countries.
- 2010.9.28，China (Binghai Tianjing） Internaytional Eco-city Forum). Eero Paloheimo, keynote speech
- At the meeting, attract 0.2 billion **€** investment. in 2010 total investment amounted to 0.28 billion **€**.

CaoFeiDian International Eco-city

- 唐山市从2007年1月开始着手启动规划设计工作，2009年3月正式开工建设；
- 总体规划面积150平公里，近期建设用地80平方公里。
- 充分借鉴世界港口城市发展的经验，遵循港口、港区、港城协调发展的理念，在荒滩上探索建设城市可持续发展模式；
- 集约利用土地、积极利用可再生资源、加强环保基础设施建设等方面探
- 索了生态城市的建设新途径，并致力于生态城完善指标体系的建立。
- In 2009, total investment 2.33 billion **€.**
- Sweden Pavillion of Shanghai World Expro will settle here in 2011.

Beijing “Sino-Fin Ecological Valley”

- Beijing, Mentougou, MiaoFengshan Valley. 100 square Km of shallow mountain, plans to invest 1 billion **€**.
- “Finland ecological Valley” will be built in 25 galleries and exhibition center. the building will take full advantage of the hollowing out of the mountain quarry, hillside. through the clever use of sufficient light and heat, to build evergreen low-carbon mountain buildings.
- 2010.06.19, in Western investment project promotion meeting, signed 24 cooperation projects, the introduction of social capital 16.7 billion **€**.

Wuxi Sino-Sweden low-carbon eco-city

- 由无锡市人民政府与瑞典王国环境部合作开发的中国瑞典两国政府间合作示范项目“无锡中瑞低碳生态城”2010年7月3日正式在无锡签约启建动工。国家住房和城乡建设部同时授予无锡太湖新城为“国家低碳生态城示范区”，将探索制定适应中国国情的生态城建设指标体系。

- 该项目位于无锡太湖新城核心区规划面积2.4平方公里，委托瑞典腾博公司整体规划设计，三年内完成建设。在全国首次将新能源、水资源循环、废弃物处理等生态技术进行整片区域的推广应用。

Shanghai Dongtan Eco-City (effect diagram)

3.1 Overall thinking of ecocity development of China

1. Eco-city Planning should coordinate the State development goals of "resource-saving and environment-friendly society".
2. Set up for low-carbon eco-city dynamic evaluation system, to guide urban innovation.
3. Full use of traditional ecological ideas, creating an eco-city with Chinese characteristics.
4. Through good design and fine management, build a livable city with pleasant landscape, good service, extensive facilities, and harmony social.
5. Affordable construction costs, replicable development model, sustainable self-development.

3.2 Priorities of ecocity development of China

1. Draw up strategy and overall plan of ecocity development.
2. Establish a technical system for the plan and design of ecociy.
3. Key technology for the ecocity with greatest potential.
4. Establish technical system for ecocity management.
5. A model for ecocity plan and construction

4.1 Prospect of Finland-China cooperation on ecocity

- Findland enjoys a great deal of state-of-the-art green technologies in environmental energy conservation.
- China has a large market and huge demands.
- All-dimensional good relations between China and Finland is of great importance.
- Eco-city is a good entry point of deep-level cooperation .
- Finnish R&D institutions and companies have a good working relationship.
- Finland has have a good basis for cooperation in eco-city . (Beijing, Tianjin, Komsomolsk, Danyang, etc.)

There is a great potential for bilateral cooperation.

4. 2 Some personal thoughts

- Don’t regard it as a pure real estate and construction projects.
- Integration of green energy technologies.
- The Chinese partners usually wish to deal with large company or organization. package deal
- The Chinese side hopes to get attention and support of government level. Culture, reliability
- Most of Finnish companies are small companies - an alliance or network.
- Great Opportunity for VTT to expand and deepen cooperation with China.

4.3 Some Personal suggestion

- Provide comprehensive solution, from the feasibility study, program planning, to implementation framework, to specific operations.
- Provide technology mixs to solve full range of solutions.
- Integration and coordination of the ecocity related technologies and the companies.
- Establish alliance or network, including government, industry associations (eg FECC), R&D institutions (eg, VTT), companies and other institutions;
- FECC and VTT to lead the establishment of such alliances or network;
- I am willing to provide needed support and assistance.

5.1 14th Joint Session of Sino-Fin S&T Cooperation Agreement , Beijing, Nov 23, 2010

- Both sides introduced the latest domestic science and technology policy development.
- China has achieved great progress in innovation these years and will keep intensifying S&T investment in the 12th five-year plan from 2011 through 2015.
- Finland ranks top for S&T input and will further focus on 6 areas including ICT, energy & environment, forest, machinery engineering, health & wellbeing, and built environment.
- Both sides highly appraised the bilateral cooperation since the last joint session and expected a more closed and fruitful cooperation relationship.

The Joint Committee discussed and decided upon specific focused areas of mutual cooperation between China and Finland:

4. DigiEcoCity project.

….Both sides noted that the DigiEcoCity project is a very important project in bilateral cooperation and strongly supported by both governments. It serves as a unique test-bed for other collaboration projects such as ICT Alliance and Living Labs cooperation. ….

5.2 Introduction of Chinese city partner

Zhungeer county, Erdos city, Inner Mongolia:

- China‘s important energy base (nearly 100 billion tons of coal reserves). 2009, rank 20th of 100 in county comprehensive economy strength, top1 in west region.
- Area of 230 square Km, planning construction area of 87 square Km.
- Based on“eco-environmental protection, technological innovation, land-saving” principle, strive to create a high level of ecological coal chemical base.

Intentions to cooperation

digital low-carbon eco-city construction:
The first County digital project in China – “Digital Zhungeer” has taken shape.

Intentions: a comprehensive construction of the "digital low-carbon eco-city.”

VTT and FECC have send the delegations to pay a visit to erdos city and signed the MoU with local government recently.