China's institutional bricolage of eco-cities

Are there benefits in adopting the eco-city concept selectively?

Overview

1. Revolution or gradualism?
2. Mechanisms for China's institutional stability
3. Institutional bricolage
4. The eco-city concept
5. China's record on adopting on eco-cities
6. Case of the Sino-Dutch Low Carbon City
7. Implications for Russia?

Revolution or gradualism?

Pros and cons of development autocracy

- Minxin Pei says
- Peter Rutland says
- David Shambaugh says
- Shaoguang Wang says
- Xiaomei Zang says

Revolution or gradualism?

- Lucian Pye says
- Frank Pieke says
- Alexei Shevchenko says
- Claus Offe says

Orthodoxy

Heteropraxy

Mechanisms for China's institutional stability

1. Dominance of economic considerations

2. Features and ethics of CCP

3. Public and private osmosis used for entrepreneurship

4. Resilience of cultural values

Foreign critics lack historical awareness: they just give one-size fit all advice.
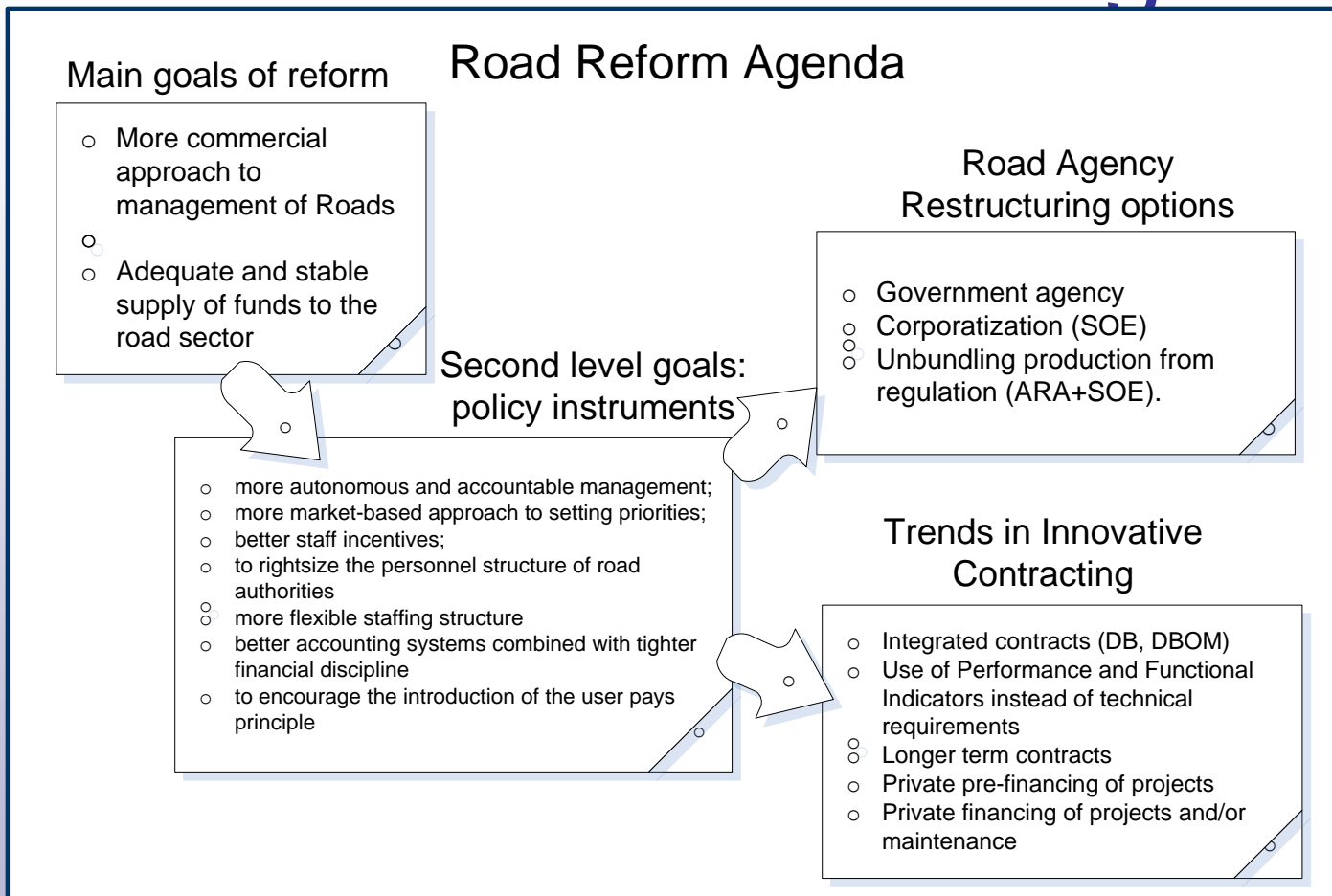
Institutional bricolage

- What is policy transfer?

- What is institutional transplantation?

- Dos and don'ts

- 'Institutional bricolage'

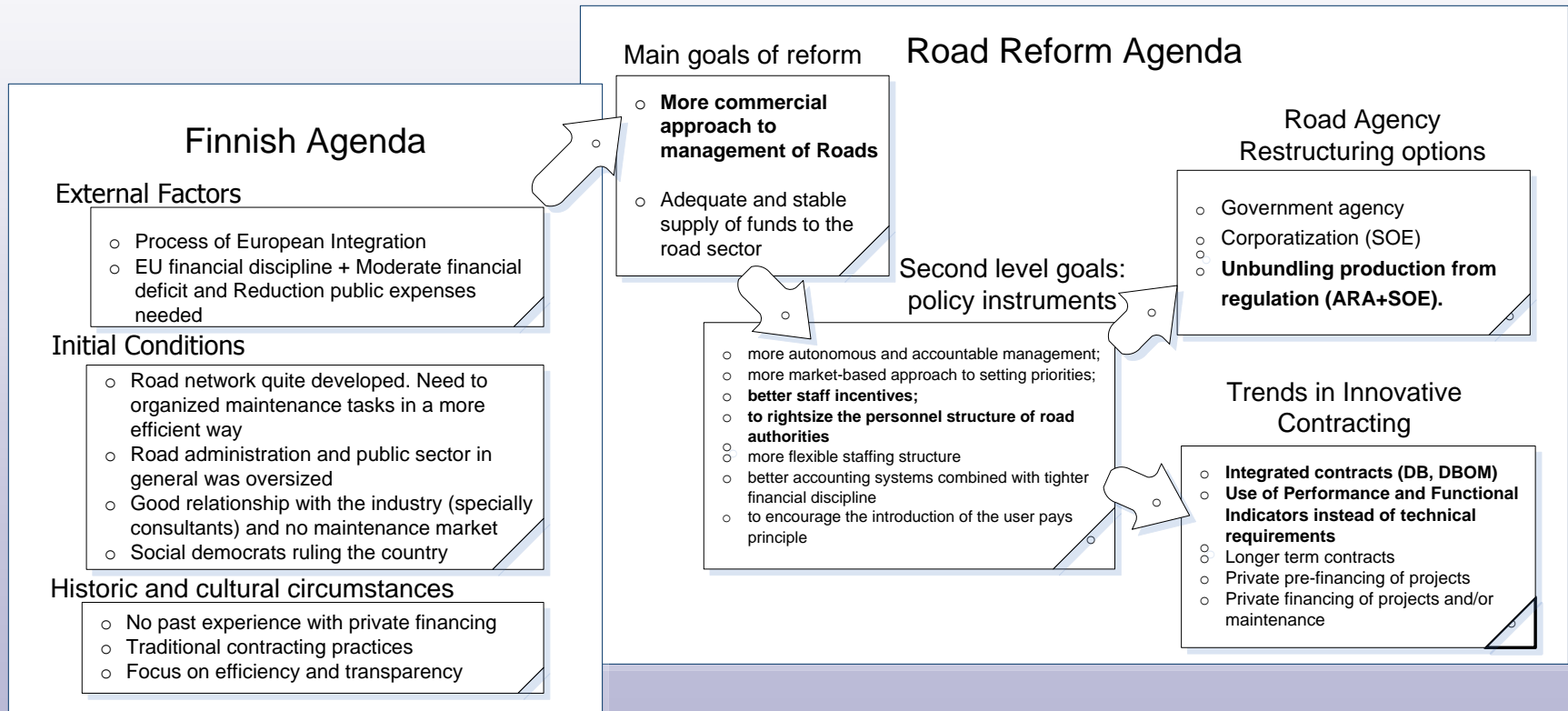- What is China doing: Setting one's own agenda or missing the essence?

Institutional bricolage

Road Reform Agenda

Main goals of reform

- More commercial approach to management of Roads
-
- Adequate and stable supply of funds to the road sector

Road Agency Restructuring options

- Government agency
- Corporatization (SOE)
- Unbundling production from regulation (ARA+SOE).

Second level goals: policy instruments

- more autonomous and accountable management;
- more market-based approach to setting priorities;
- better staff incentives;
- to rightsize the personnel structure of road authorities
- more flexible staffing structure
- better accounting systems combined with tighter financial discipline
- to encourage the introduction of the user pays principle

Trends in Innovative Contracting

- Integrated contracts (DB, DBOM)
- Use of Performance and Functional Indicators instead of technical requirements
- Longer term contracts
- Private pre-financing of projects
- Private financing of projects and/or maintenance

Nordic Model

Finnish Agenda

External Factors
- o Process of European Integration
- o EU financial discipline + Moderate financial deficit and Reduction public expenses needed

Initial Conditions
- o Road network quite developed. Need to organized maintenance tasks in a more efficient way
- o Road administration and public sector in general was oversized
- o Good relationship with the industry (specially consultants) and no maintenance market
- o Social democrats ruling the country

Historic and cultural circumstances
- o No past experience with private financing
- o Traditional contracting practices
- o Focus on efficiency and transparency

Road Reform Agenda

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- o Adequate and stable supply of funds to the road sector

Second level goals: policy instruments
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- o more market-based approach to setting priorities;
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Trends in Innovative Contracting
- o **Integrated contracts (DB, DBOM)**
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- o Longer term contracts
- o Private pre-financing of projects
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Latin Model

Spanish Agenda

External Factors
- Process of European Integration
- EU financial discipline + Vast financial deficit and ambitious reduction needed

Initial Conditions
- Urgency to invest in expansion of the network. Network behind EU standards.
- Relative small central road authority as product of Autonomy Statute (1982) and Socialist de-investment policy (1982-1996)
- Existing expertise in private financing
- Centre-right party (PP) ruling the country

Historic circumstances
- Past experiences with concession model
- Traditional contracting practices

Worldwide Reform Agenda

Main goals of reform
- More commercial approach to management of Roads
- **Adequate and stable supply of funds to the road sector**

Second level goals: policy instruments
- more autonomous and accountable management;
- more market-based approach to setting priorities;
- better staff incentives;
- to rightsize the personnel structure of road authorities
- more flexible staffing structure
- better accounting systems combined with tighter financial discipline
- **to encourage the introduction of the user pays principle**

Trends in Innovative Contracting
- Integrated contracts (DB, DBOM)
- Use of Performance and Functional Indicators instead of technical requirements
- **Longer term contracts**
- Private pre-financing of projects
- **Private financing of projects and/or maintenance**

Implications of the road reform example

- Countries choose pick different ideas from global pool, depending on preferences of national players
- Ideas are bent to fit national context
- Some global ideas hard to combine or contradictory
- Both Finland and Spain are pioneers and successful in terms of OWN objectives
- New institutional equilibria stable or suboptimal and temporary?

David Register's eco city

Register's eco-city

- Only pedestrians, bikes and trains
- Many high-rise buildings with lifts
- Green roofs and galleries
- Many open spaces
- Parks and trees wherever possible
- Urban agricultural production
- Fancy decoration inside flats
- Respectful of original geography

Newman's Eco-city
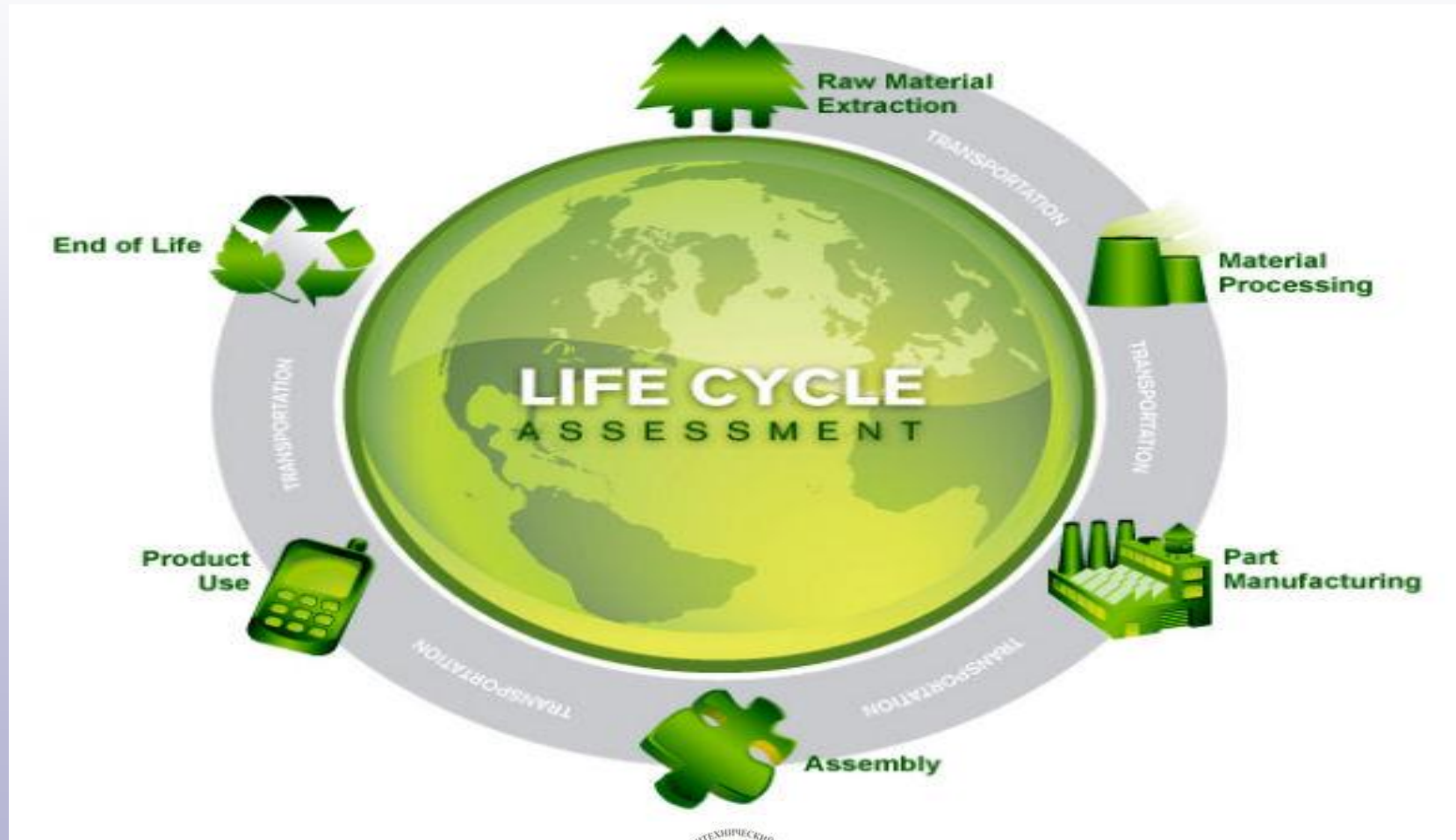
Newman's Eco-city

- Urban form has decisive impact on mobility and resource consumption
- Look at ecological footprint
- Cities are only sustainable if they operate like eco-systems
- Take biodiversity as inspiration
- Planning only works if done in integrated and participatory ways

World Bank's Eco-city

World Bank's Eco-city
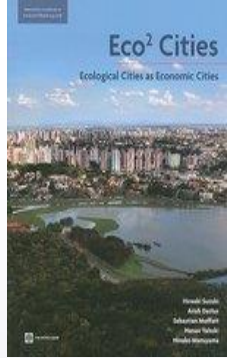
Four main principles:

1. A city-based approach

2. An expanded platform for collaborative design and decision-making

3. A one-system approach with sophisticated decision-support tools

4. An investment framework that values sustainability and resilience

Utopia rising

By HU YUANYUAN
(China Daily) 2008-07-07 7:41

The Wanzhuang eco-city display center in Langfang, Hebei province.

Imagine this. Wildlife grazing and romping in green glades filled with birdsong. People working at home or in business parks to which they can stroll or cycle. And residents need only a three-minute walk to reach a park wherever they live.

It's not a description for a utopia but the blueprint for Wanzhuang, one of China's first planned eco-city developments.

In September 2005, Chinese President Hu Jintao paid a visit to the United Kingdom, during which a series of agreements were signed; among them is a deal between Shanghai Industrial Investment Corporate (SIIC) and UK-based Arup to transform Dongtan in Shanghai into China's first eco-city. And now they have begun a second project in Wanzhuang, northwest of the prefecture level city of Langfang and an important junction connecting Beijing, Tianjin and Hebei.

Eco-cities: Chinese dream

Some eco-cities in China

- Huangbaiyu
- Shanghai Dongtan
- Dezhou
- Rizhao
- Tianjin
- Tangshan/Caofeidian
- Suzhou
- Shenzhen?

Huangbaiyu: Failed!

Dongtan: never realised

Dezhou: solar city

Rizhao: solar and wind city

Tianjin: in process

Tangshan-Caofeidian: in process, but possibly bankrupt

Suzhou industrial park: successful

Can Shenzhen do it?

Pingdi, from Modest Beginnings

To a City of the Future…
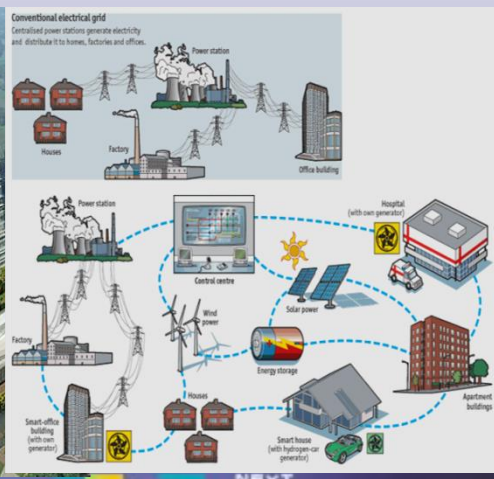
Outline of the Pearl River Delta

Guangzhou,
Foshan & Zhaoqing
metropolitan circle

广佛肇
都市圈

深莞惠
都市圈

Shenzhen ,
Dongguan &
Huizhou
metropolitan circle

珠中江
都市圈

Hong Kong

香港

Zhuhai, Zhongshan
& Jiangmen
metropolitan circle

龙岗中心在珠三角的功能定位：地方性中心
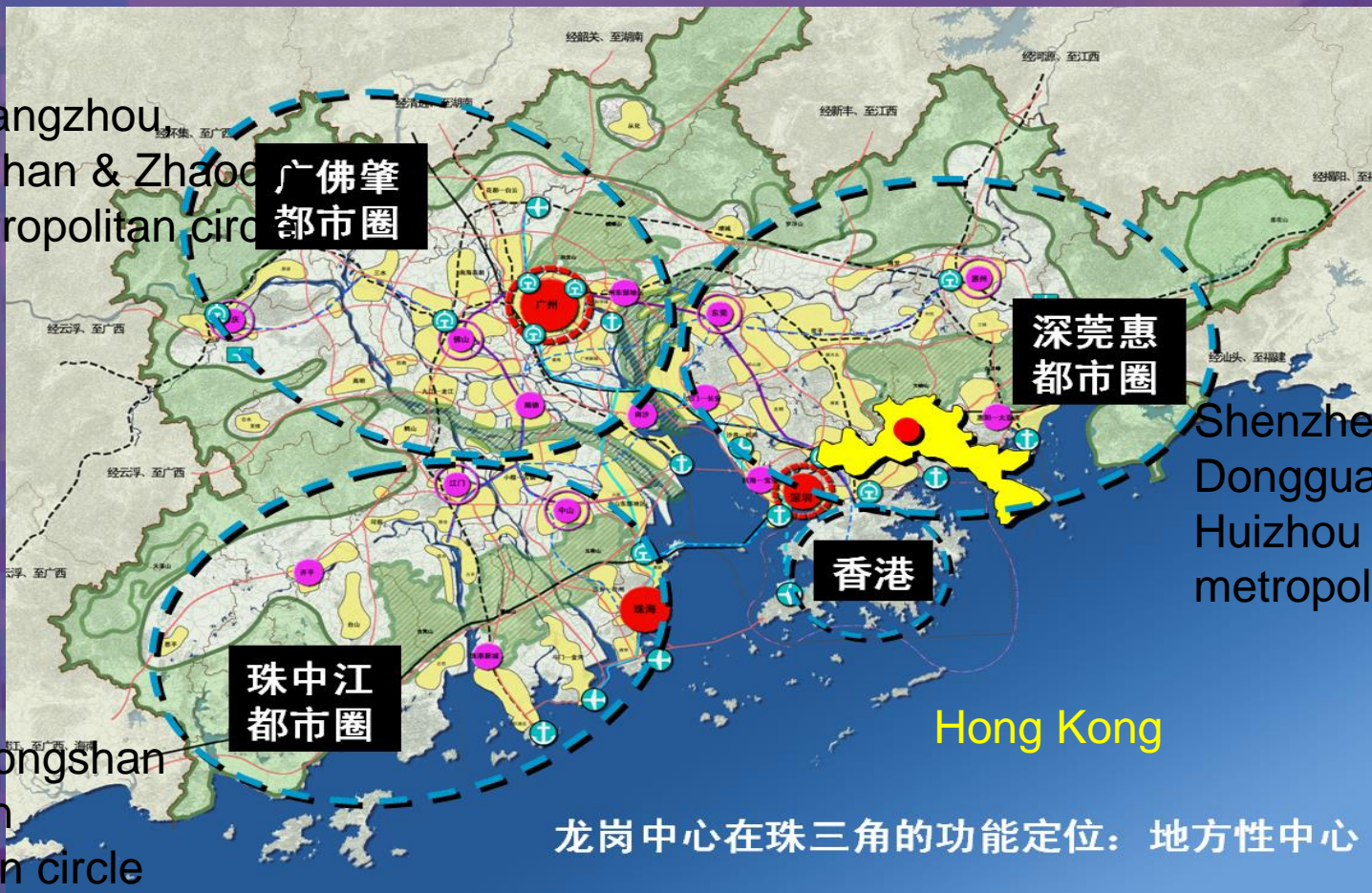
Pingdi, Xinxu and Qingxi
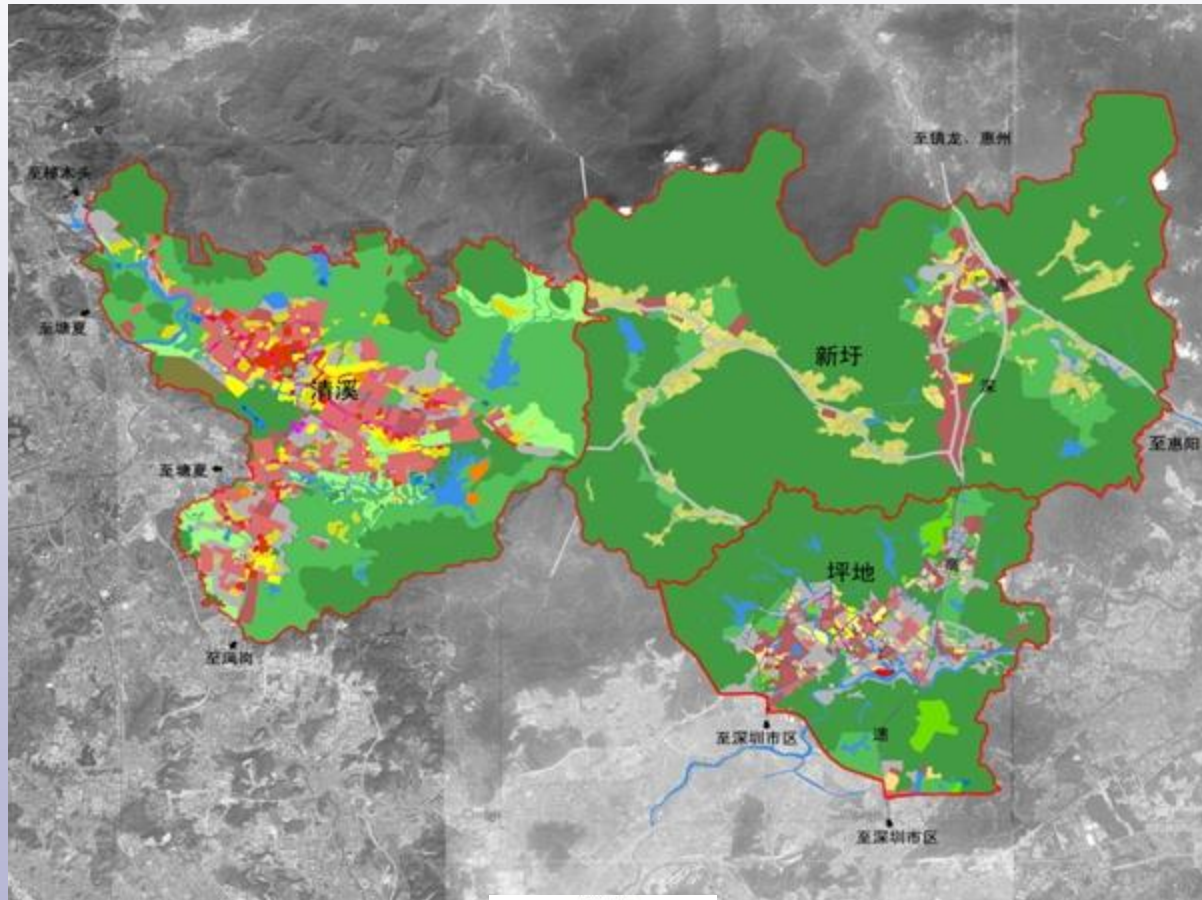
Images of Pingdi
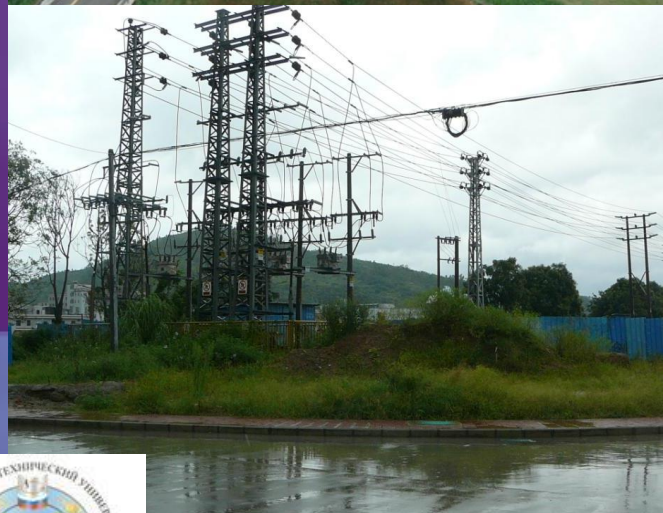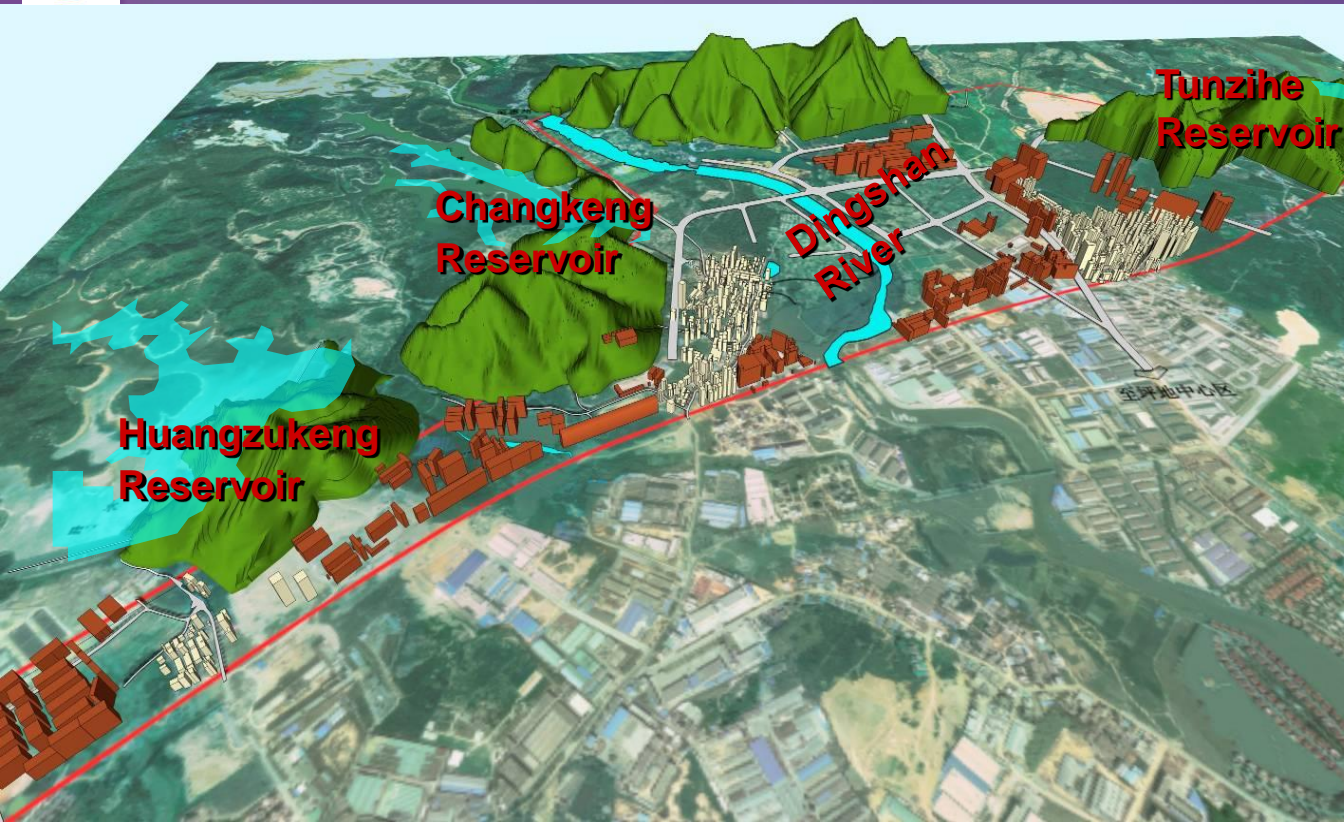
Basic information about Gaoqiao Industrial Zone in Pingdi

Natural Environment

1.Good ecological environment

2.surround by mountains in

three direction

3.Ding Shan River pass across

the region in the center

Tunzihe Reservoir

Changkeng Reservoir

Dingshan River

Huangzukeng Reservoir

The threat of urban sprawl

160,000 INHABITANTS

320,000 INHABITANTS

480,000 + INHABITANTS

EXISTING FABRIC

TYPICAL CITY EXPANSION

UNCONTROLLED EXPANSION WHERE
SURROUNDING NATURE DISIPATES AND DISSAPEARS

Chinese particularism

- GDP is yardstick for all evaluation
- Living standards over ecological systems thinking
- Inter-municipal collaboration is very hard
- Stakeholder involvement and civic participation low; hierarchy strong
- Spending thrift & image-building over quality
- Extreme belief in power of technology
- Enormous ambition and will-power

The way forward for Shenzhen's eco-city?

- Connect with existing economic trends
- Shift from manufacturing to services
- Push forward with R&D focus: eco-science park/open innovation campus
- Cosmopolitan environment
- International transparent quality checks
- Chinese version of stakeholder involvement
- Our vision: Eco-2-city/zone
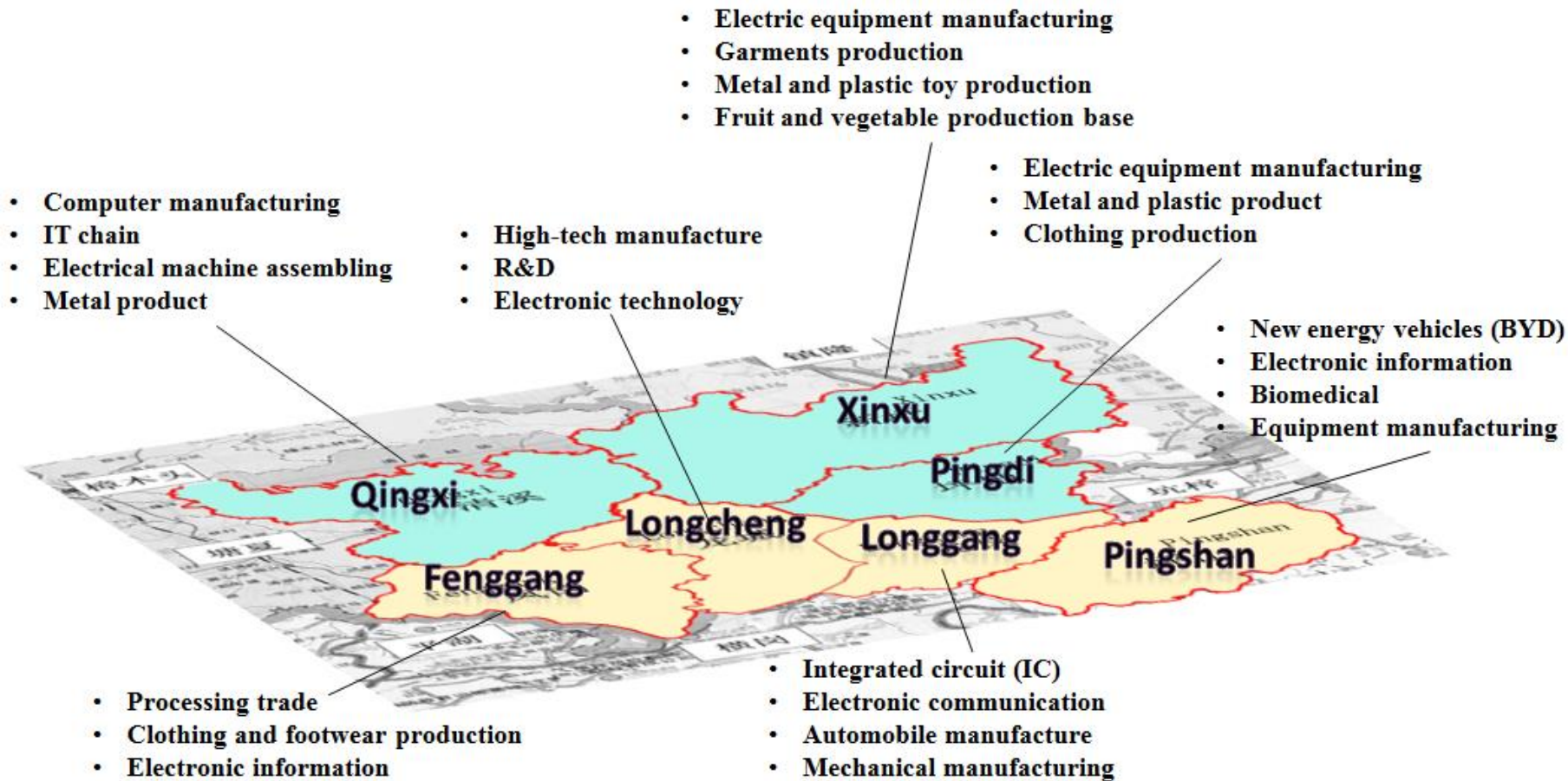
Vision

Knowledge-based, because:

- Manufacturing industry is becoming less prominent
- Universities and research centers will attract innovative economic clusters around them
- Value added is highest in high-tech services
- Industry and agriculture in the area both need to be systematically upgraded
- State-of-the-art communication and other infrastructures attract most talented people

Industrial activities in various subdistricts

- Electric equipment manufacturing
- Garments production
- Metal and plastic toy production
- Fruit and vegetable production base

- Electric equipment manufacturing
- Metal and plastic product
- Clothing production

- Computer manufacturing
- IT chain
- Electrical machine assembling
- Metal product

- High-tech manufacture
- R&D
- Electronic technology

- New energy vehicles (BYD)
- Electronic information
- Biomedical
- Equipment manufacturing

Xinxu

Pingdi

Qingxi

Longcheng

Longgang

Pingshan

Fenggang

- Processing trade
- Clothing and footwear production
- Electronic information

- Integrated circuit (IC)
- Electronic communication
- Automobile manufacture
- Mechanical manufacturing

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Brainpark Eindhoven

Two open campuses with top-notch international research centers in sustainable high-technology cross-fertilizing and sharing facilities.

- Facilities for car pooling
- Excellent connections to public transport
- Campus bikes to move around the site
- Cold and heat storage system

HTCE

BETA

Last update: 18-01-2011
Next update: 01-03-2011

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CREATE Campus Singapore

Top Research Institutions in the World

Campus for Research Excellence And Technological Enterprise (CREATE)

designed by KCAP Architects & Planners

TUDelft
Technische Universiteit Delft

Clean technologies, smart grids and smart services

The ECO-2 Zone will be a living laboratory for intelligent infrastructures, smart services and clean technologies:
- Mobile smart grid
- Internet-of-things
- Real-time multi-modal travel information
- Resource recovery and waste-to-energy
- In-situ soil remediation
- Waste and water treatment
- Energy-efficient building
- Smart water management

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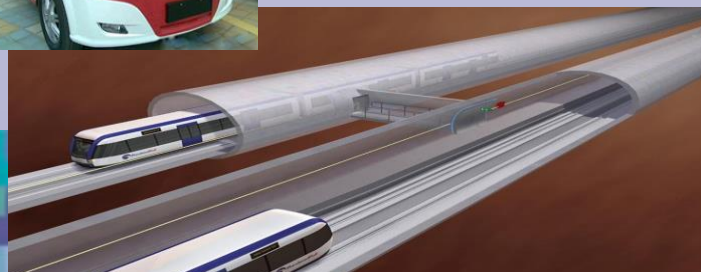
Vision

ECO-zone, because:

- Green areas attract knowledge workers more
- Eco-cities are only sustainable if based on a strong and credible economic structure
- Regional governance can prevent urban sprawl and preserve natural beauty more effectively
- Combining Special ECOnomic Zone and ECO-City implies attractiveness for industries, but also strict enforcement of environmental regulation
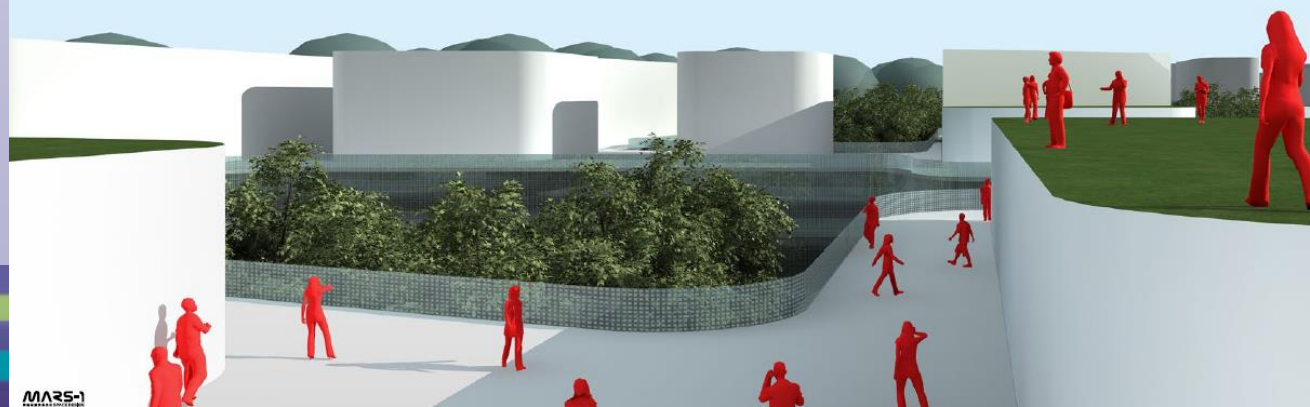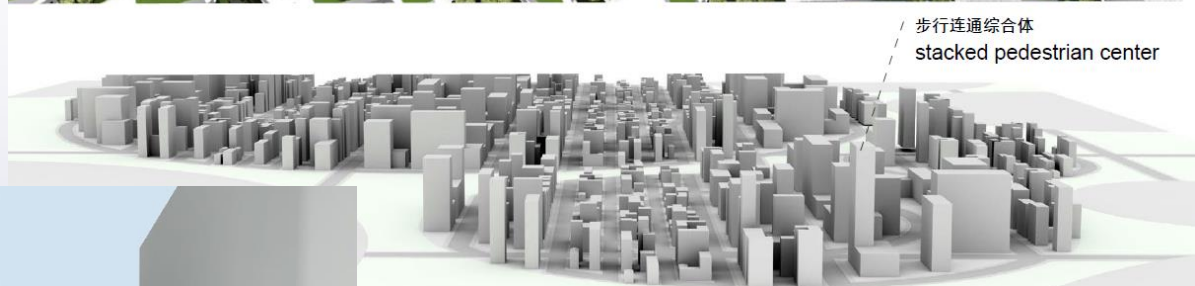
线性网格
MINIMAL HARD SURFACE

步行连通综合体
stacked pedestrian center

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Vision

Strong identity, because:

- Modernized interpretation of Hakka heritage reaffirms understanding and pride of lost treasures
- Promotion of a fully bilingual zone attracts both progressive Chinese and entrepreneurial foreigners
- Universities and research centers focus on green and clean technologies and form a living laboratory
- Smart and sustainable ICT, energy and transport infrastructures will reinforce this image
- Each sphere-shaped town will have its own specific urban structure and character

Strong cultural identity
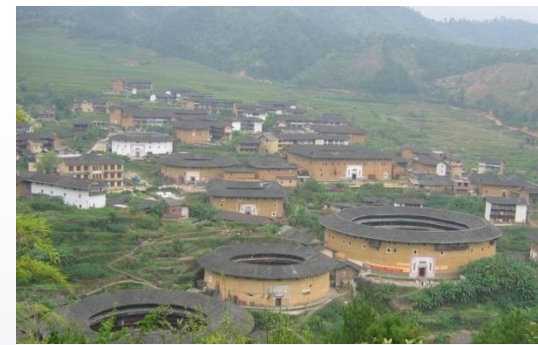
The ECO-2-Zone will establish a strong cultural identity:

- building on the local Kejia (Hakka) culture and architecture
- giving the local people a sense of pride and ownership
- making Pingdi stand out among competing eco-city initiatives elsewhere in China: preserving Kejia heritage, modern landmark buildings in Kejia style, cultural center
- creating a unique hub of local and modern culture to become an international magnet for talented young people

Urbanus architects
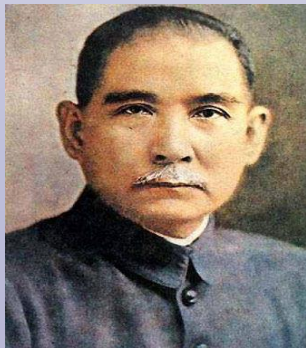
Sun Yat Sen

Deng Xiaoping

Lee Kuan Yew

TU Delft
Technische Universiteit Delft

Pingdi's most salient features

Green hilly corridors built from concrete waste from renovation, displaying a 'Hakka trail' where inhabitants and visitors can learn about and cherish the area's past through landmark buildings and exhibitions.

Bilingualism and multi-culturality

Bilingual education at all levels, attracting progressive nationals and entrepreneurial foreigners
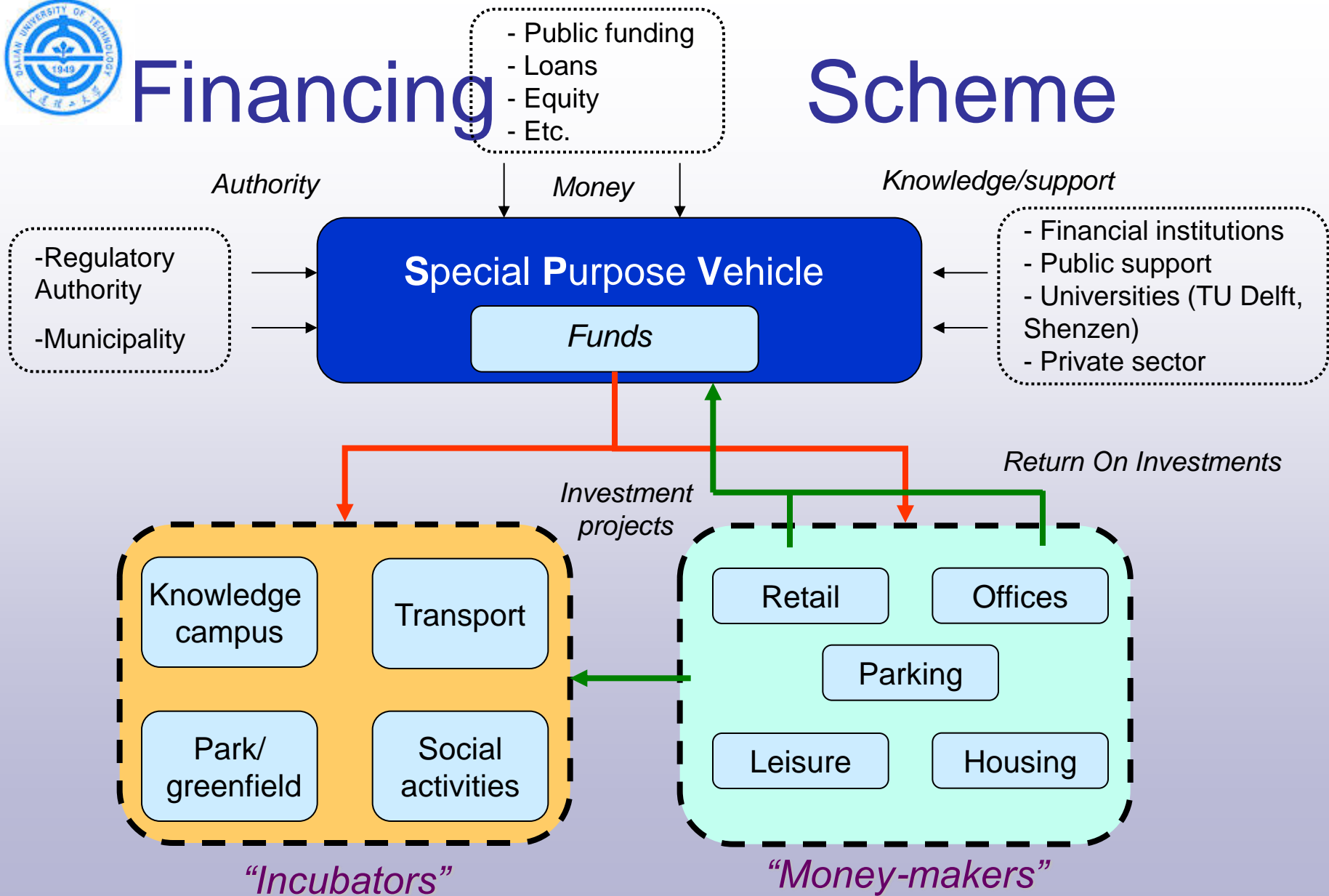
Governance model

If the three cities share the same ECO-2-ZONE vision,
We propose the following institutional arrangement:

1.	Specific and separate regional planning and regulation authority for the entire ECO-2-ZONE
2.	With budget discretion of its own, able to receive local, provincial and national funds
3.	With a Special Purpose Vehicle attached to it, which can act as a super-developer and investor
4.	With a strong enforcement body attached to it, to secure ecological stricture on behalf of the planning authority
5.	With one customer-friendly regional office for investors and companies for all information and permits

城市,让生活更美好
Better City, Better Life

Financing Scheme

- Public funding
- Loans
- Equity
- Etc.

Authority

Money

Knowledge/support

- Financial institutions
- Public support
- Universities (TU Delft, Shenzen)
- Private sector

-Regulatory Authority

-Municipality

Special **P**urpose **V**ehicle

Funds

Investment projects

Return On Investments

"Incubators"

Knowledge campus	Transport
Park/ greenfield	Social activities

"Money-makers"

Retail	Offices
Parking	
Leisure	Housing

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Research and Consulting

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Step-wise implementation

- Masterplan is ultimate vision
- Must be implemented gradually: financial and practical restrictions
- Incremental approach: learning by doing to control feasibility and ensure flexibility to accommodate new demands and emerging technologies
- Step 1 - developing first international innovation hub in Gaoqiao: world-class open campus with research centers from renowned universities in attractive green environment, with ecologically sound buildings and good connectivity
- Step 2 - attracting suitable private companies to join in innovation cluster
- If successful, more spheres will follow suit, including a commercial sphere and a hi-tech agricultural cluster near Huizhou
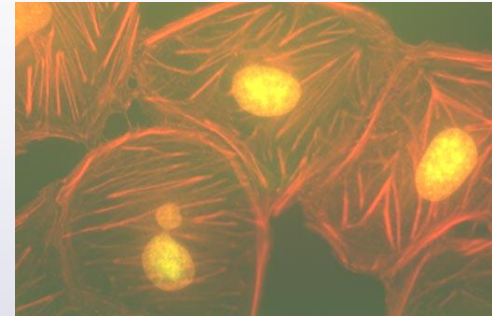
Process description (1)

- Various presentations and draft reports
- Client actively picked up ideas and read reports in advance
- Longgang and Shenzhen both embraced it, and pushed it up to NDRC
- Shenzhen became one of eight national Low Carbon Cities: Sino-Dutch
- Dutch Consul asked for G2G relation

Process description (2)

- Slow Dutch response; limited but serious commitment
- Two high-level visits to Netherlands from Shenzhen; positive findings
- Two expert meetings in Shenzhen, pleasant and informative, but few concrete outcomes
- Tide began to turn on Chinese side

Process description (3)

- Stakeholder analysis on Dutch side; government takes firmer control
- NDRC questions Dutch role on Chinese side; International Low Carbon City
- April 2012: Can Holland still get a few km2 for an Eindhoven style brainport?
- Holland still empty-handed: own fault?
- Current status

Live Green Blog

Mentougou Eco-Valley

by Paola on Wednesday, 20th April 2011 in
Sustainable Architecture

The architecture and positions of the buildings were carefully designed based on the site's natural topography and characteristics. They are situation around small bodies of water and the modular homes climb the mountain sides, blending into the natural landscape.

Despite this project's admirable ambitions, including carbon neutrality and an ecological footprint approximately one-third the size of that of a normal city of comparable size, one cannot help but image that leaving this breathtaking, unspoiled valley undeveloped would be the more environmentally-friendly choice.

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Implications for Russia

- Do Chinese squander eco-city concept?
- Is bricolage smart adoption or missing the essence?
- Does Russia follow foreign governance advice blindly or reject it bluntly?
- What are Russian particularism?
- What is Russia's policy transfer style?
- What will Russian eco-cities look like?