



Sustainable Development Business Opportunities in China Nike Campus

**Team Oregon, LLC
Cogan Owens Cogan, LLC
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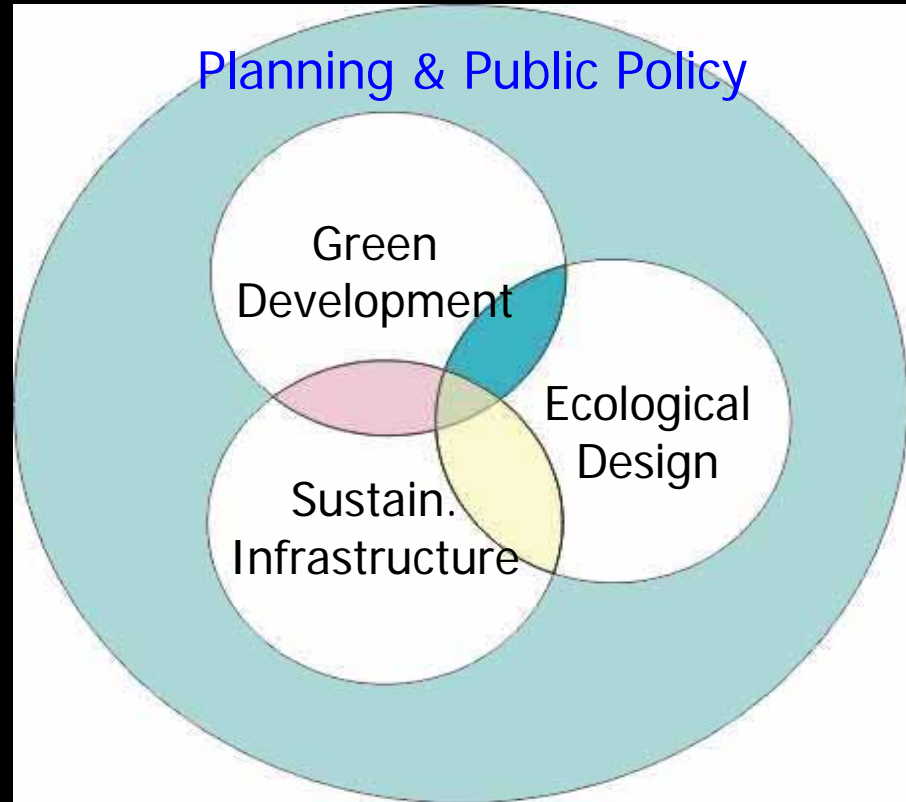
Team Oregon

- **Vision of a Sustainable Planet:
Economy x Ecology x Communities**
- **Approach: Collaboration**
- **Collaboration includes:**
 - **China-US Center for Sustainable Development (NGO)**
 - **Portland and Pacific Coast Networks**
 - **Private Industry**
 - **Colleges and Universities**



Team Oregon, LLC

A company organized in Portland, Oregon, USA to provide sustainable development services to clients throughout the world.



Mountains and Rivers

- Tu Fu said: “The Nation falls to ruins... only mountains and rivers remain...”
- We might now say: “Mountains and rivers fall to ruin...only the nation remains...”



Past and Future of China



Major Forces of Change

- Globalization
- Rapid economic growth
- Rapid population growth
- Massive urbanization
- Natural resource and supply constraints
- Energy supply and costs
- Air and Water pollution
- International Engagement

Chinese Response

- One Child Policy – Most advanced sustainability policy
- Joint ventures – most large developments
- Circular economy – 2009 Legislation
- UN Clean Development Mechanism – Kyoto response
- Urban development – density is energy efficient
- Ag land reclamation – acre for acre replacement policy
- Green building – 200 LEED for 150 million square feet
- National building energy standard – 60% + US standard
- Car mileage standards – higher than US standards

美国目前的发展模式是非可持续发展的

United States is Not a Model for China

- 4.6% of world population
- 25% of world total energy consumption
- 55% of petroleum used is imported
- #1 share of CO₂ emissions

Source: China-US Center for Sustainable Development

Challenges Facing China

- Population growth and migration
- Urbanization
- Natural resource consumption
- Water resources
- Land resources
- Energy resources

Population

- 1.3 billion people
- Annual population increase 10 million
- Over 60 cities of over 1 million
- Average economic growth rate of 10 percent
- 700 million Chinese people do not have access to safe water
- 2,500 square kilometers of land in China is turned into desert annually

Source: China-US Center for Sustainable Development

Natural Resource Consumption

In 2003, China consumed:

- 40% of world's cement
- 31% of coal
- 30% of iron ore
- 27% of total steel
- 25% of aluminum
- 7.4% of global oil

Source: China-US Center for Sustainable Development

Resource Consumption Efficiency

- 4% of global GDP
- Energy consumption for every \$1 of product:
 - 4.3 times more than United States
 - 7.7 times more than Germany and France
 - 11.5 times more than Japan

Source: China-US Center for Sustainable Development

Water Resources

- 2800 billion tons – #6 in world
- 2300 tons per capita – $\frac{1}{4}$ world average
- Ground water over pumping is near crisis

Source: China-US Center for Sustainable Development

Land Resources

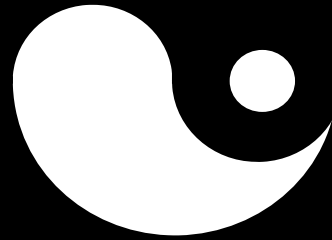
- 2 acres of land per capita – 1/3 the world average
- ¼ acre of arable land per capita – less than half the world average
- Annual arable land reduction – 1.7 million acres
- In 2003, China decreased arable land by 6.3 million acres
- At this rate, there will be no arable land in China in 50 years

Source: China-US Center for Sustainable Development

Energy Demand

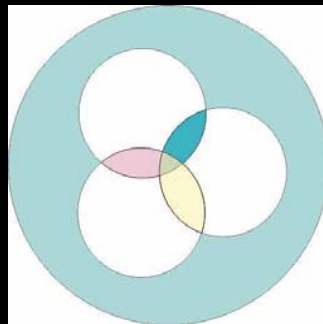
- **1993年中国成为净石油进口国**
China became a net oil importer in 1993
- **2003年末中国超过日本成为仅次于美国的石油进口国**
China bypassed Japan and becomes world #2 oil importer next to U.S.A. at the end of 2003
- **中国石油进口每年增长9%,预计到2020年中国55%的石油将依赖进口**
China's oil import is now rising by 9% per year and it is predicted that 55% of the oil will be imported by 2020. In 2010 will become the world's largest emitter of CO₂

Source: China-US Center for Sustainable Development



我们有什么样的选择

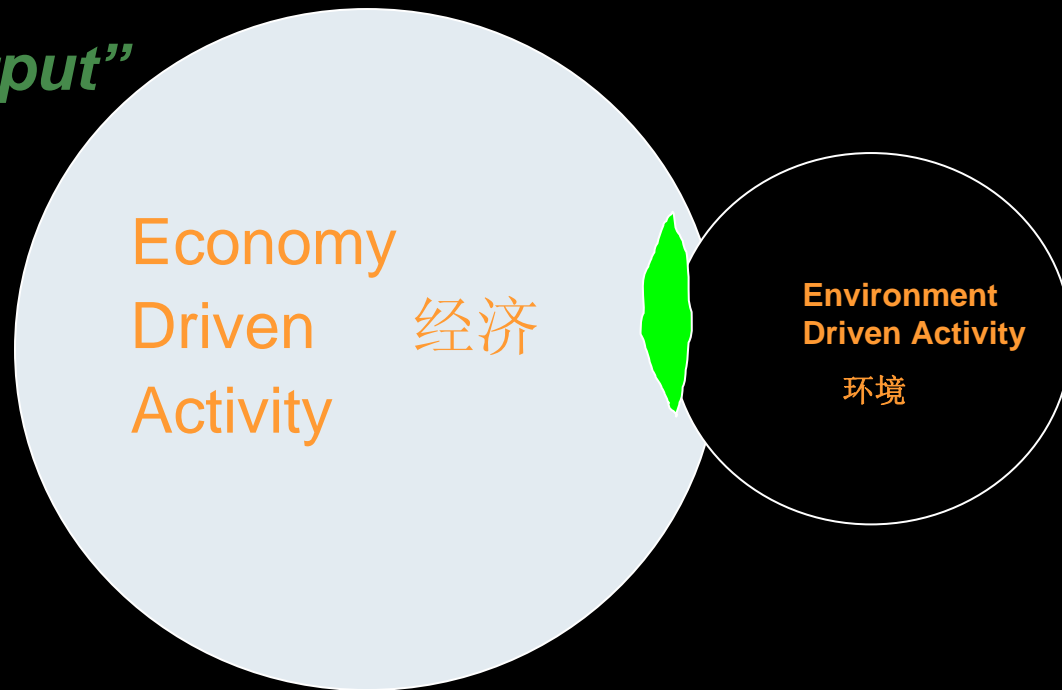
Development Choices



传统 *Traditional*

产出最大化

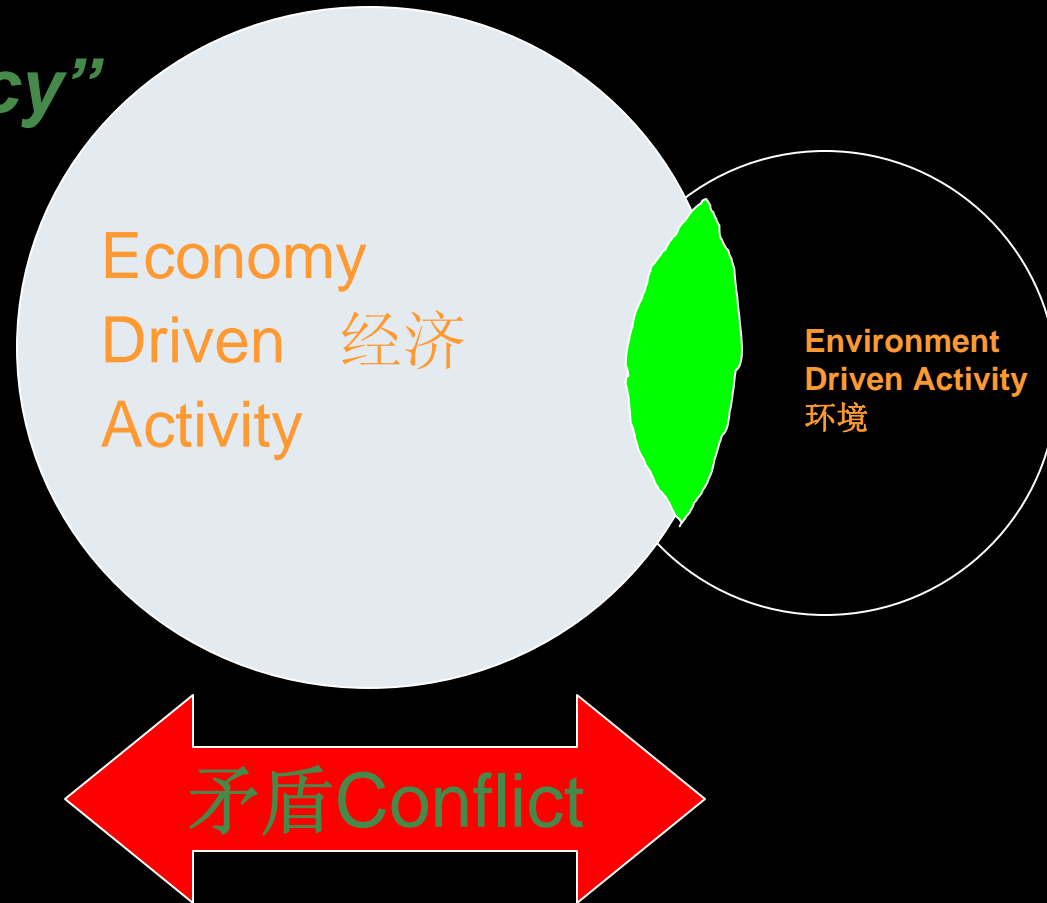
“Maximize Output”



过渡 *Transitional*

生态效率

“Eco-Efficiency”



目标: 生态效用 Sustainable

空气 Air

水 Water

食物 Food

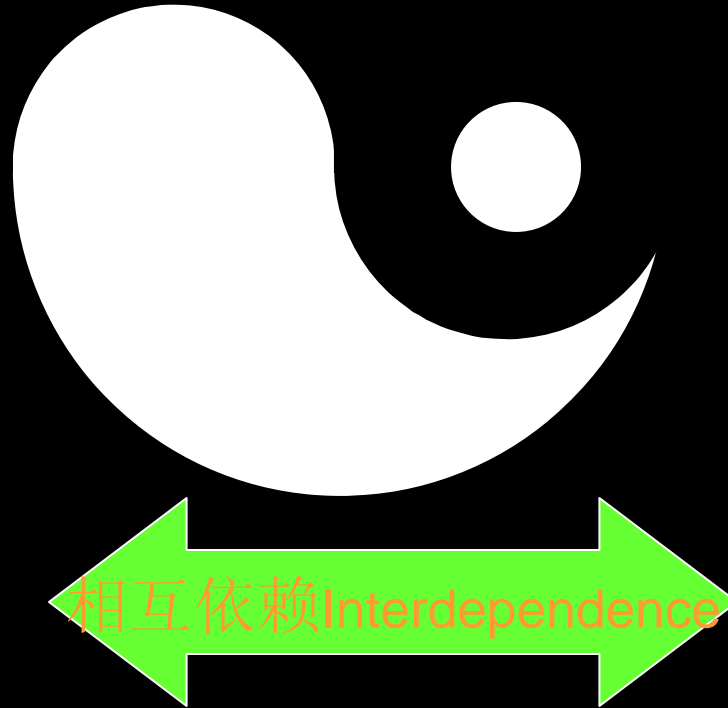
住房 Housing

能源 Energy

工作 Work

娱乐 Recreation

Achieving Multiple Benefits



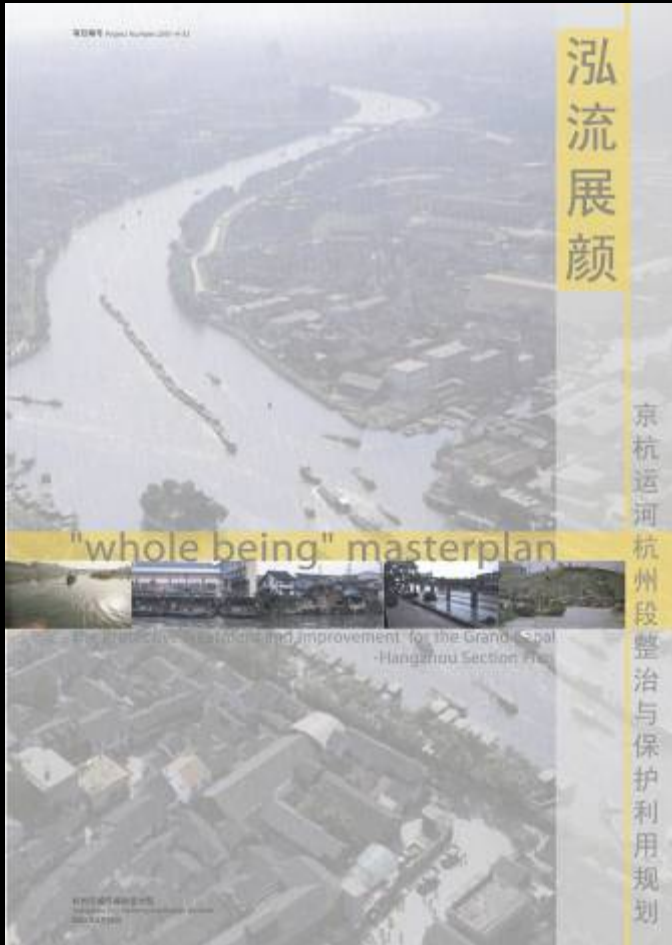
Project List

- Hangzhou Grand Canal
- Zhangjiang High Tech Park (Shanghai)
- Tianjin Central District
- Taipei Eco City
- Taiwan Sustainable Development Action Plan
- Portland-Suzhou Sister City Association
- China U.S. Center for Sustainable Development
- US China Green Energy Council

Whole Being Master Plan for

The Grand Canal

Hangzhou, China
SOM Asia/Team Oregon, LLC



China's Three Treasures



The Silk Road



1a. 中国三大珍宝
The "Three Treasures" of China

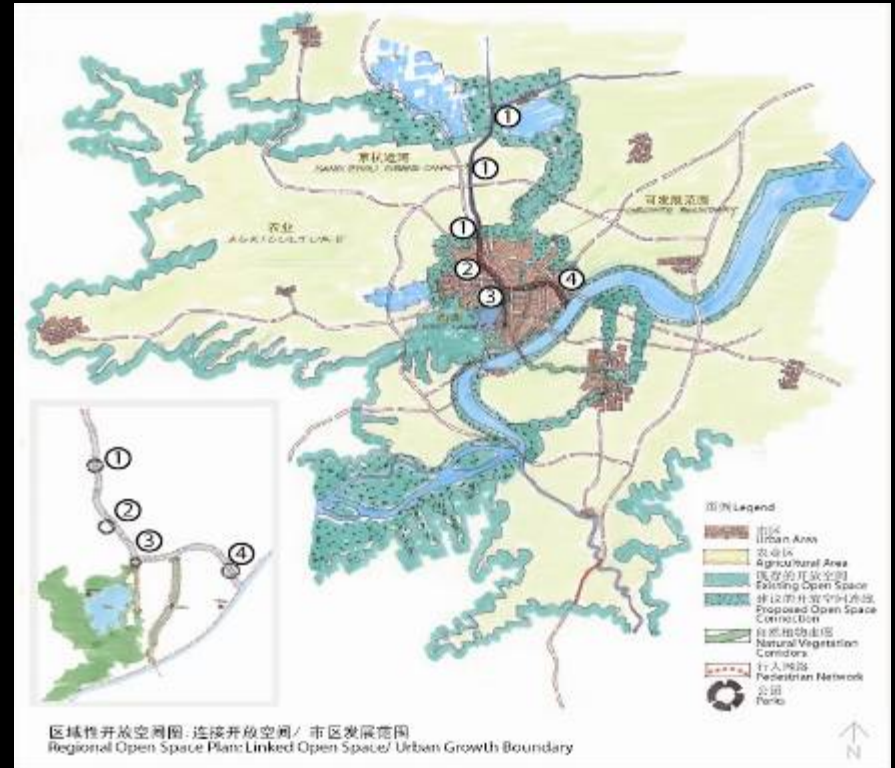


The Grand Canal

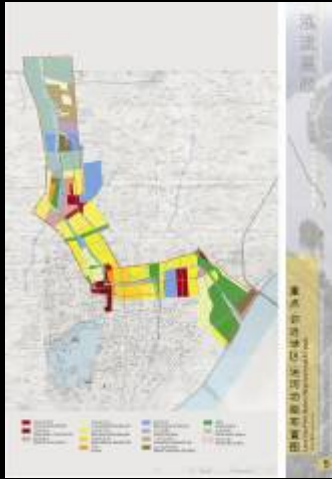


The Great Wall

The Regional Open Space Plan: Blue and Green Urban Growth Boundary



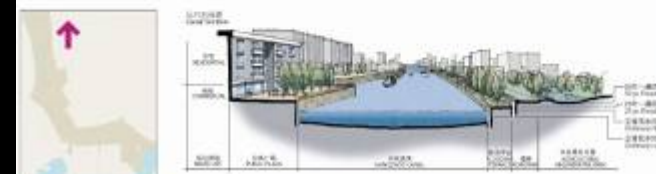
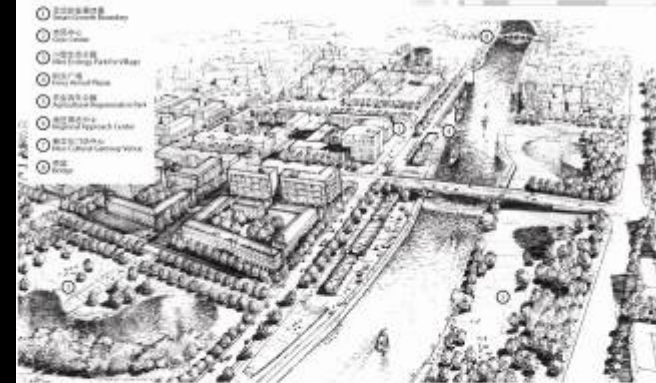
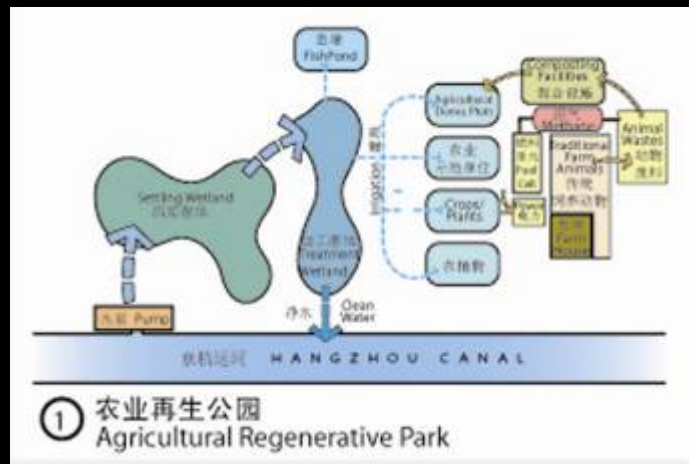
The Sustainable Development Framework



泓流展颜

运河开放空间组织中的生态循环

A Regenerative Park For A Regional Agricultural Model Village

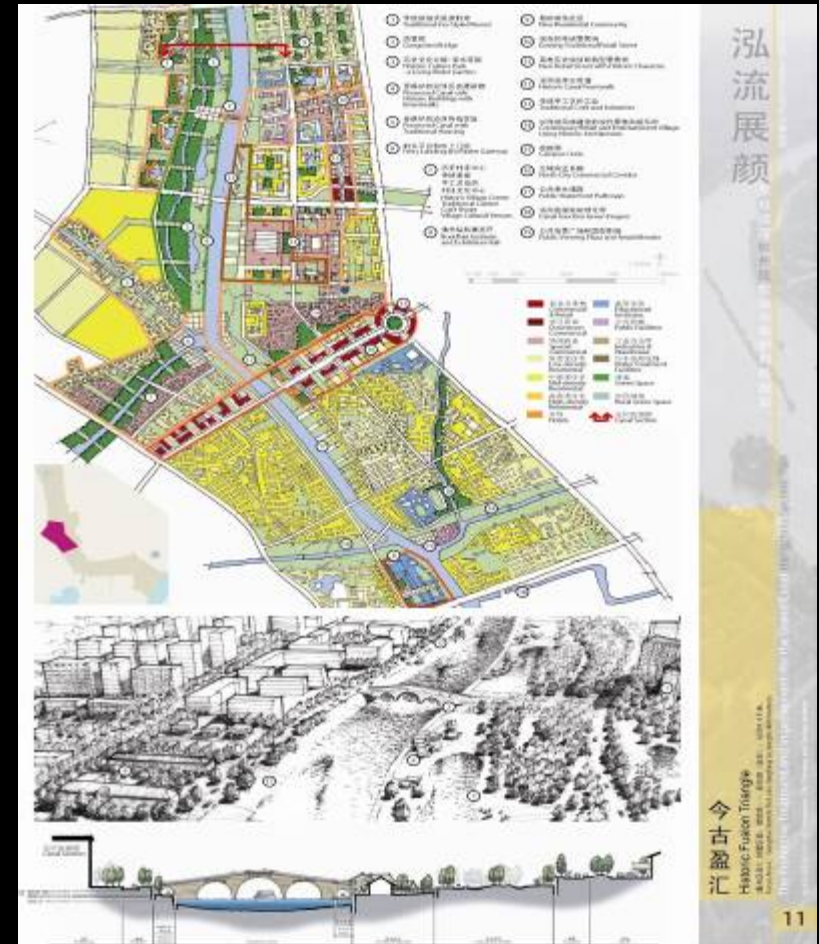
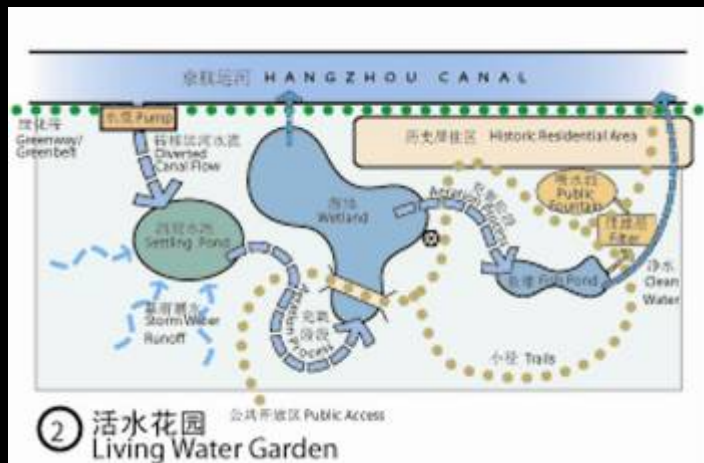


泓流展颜

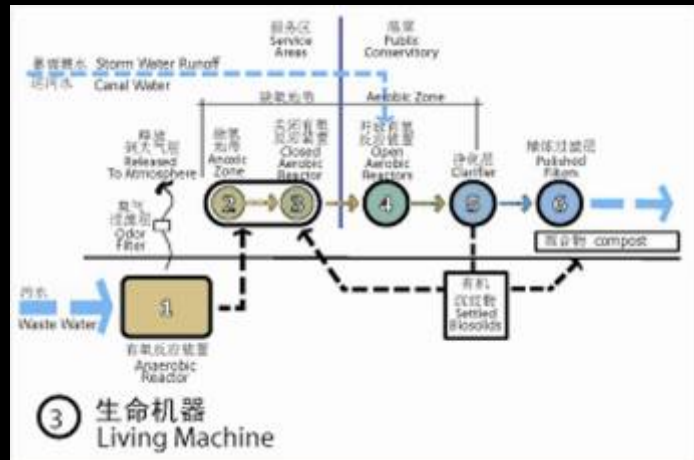
农田绿带 模范村庄

Regional Agricultural Greenbelt - Model Village

A Living Water Garden For The Historic Fusion Village



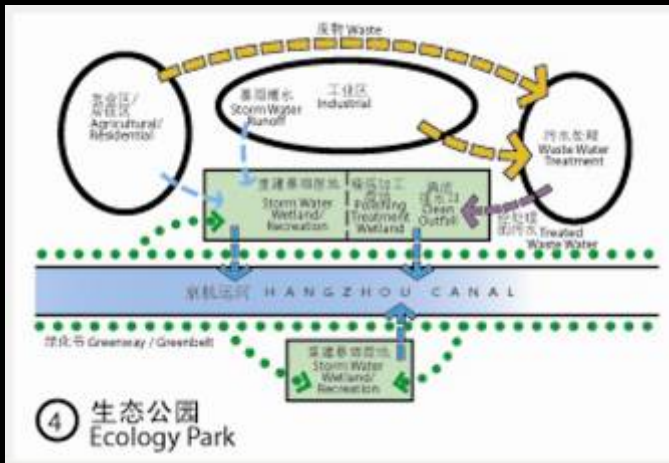
A Living Machine/Urban Botanical Garden For The Canal Central Harbor Area



泓流展颜

运河中央海港
Canal Central Harbor

An Ecology Park For The Canal Gateway to Hangzhou



泓流展颜

杭州生态之门
Ecology Gateway to Hangzhou

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Opportunities for Oregon

- Energy efficiency and renewable energy
 - Wind, solar, geothermal, ocean, hydro
 - Energy efficiency and facilities systems
 - Carbon markets
 - District energy systems
- Green and sustainable urban development services
 - Sustainable development guidelines
 - Sustainable new town development
 - Sustainable city and village projects
 - Restorative development
 - Green building projects – especially educational facilities

Opportunities for Oregon

- Ecosystem services
 - Watershed planning
 - Sustainable forestry and agriculture
 - River and coastal management
 - Ecosystem services markets
- Education and training
- Water supply and waste water treatment
 - Drought tolerant plants
 - Low cost bio waste water treatment facilities
 - Low cost grey water recycling system
 - Water conservation technology
 - Water saving equipment

Opportunities for Oregon

- Multimodal transportation
 - Light rail and trolley systems
 - Open source software
 - Car sharing
 - Electric cars and technologies
- Manufacturing and supply chain management
 - Supply chain management
 - Clean manufacturing systems
 - Product take back
 - Zero waste management systems
 - Local equity participation in development

Opportunities for China

- Advanced green thinking networks and services
- Corporate connections
- Education and training
- Research, development and technology transfer
- Joint ventures
- Long term investment opportunities
- Export understanding of Chinese arts and culture
 - Poetry
 - Arts
 - Philosophy
 - Gardens
 - Group dynamics
 - Global networks

Network Opportunities

- Sister-City and Sister-State relationships
- University and academic connections
- US corporations with China operations
- China, Hong Kong, Singapore, Taiwan Partners
- China-US Center for Sustainable Development
- Professional association
- Development funding sources
- Small firm consortia

Special China Challenges

- Marketing costs
- Contracting
- Party related governance
- Social and local benefit
- Scale
- Decision makers
- Language
- Distance
- Cultural respect
- Real Time!



***Planet Earth—Nature's
Embrace.***

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China-U.S. Center for Sustainable Development

中美可持续发展中心