



中国环境科学
研究院

区域生态环境保护创新基地

Innovation base of regional ecology. CRAES

Eco-town--a carrier of eco-san

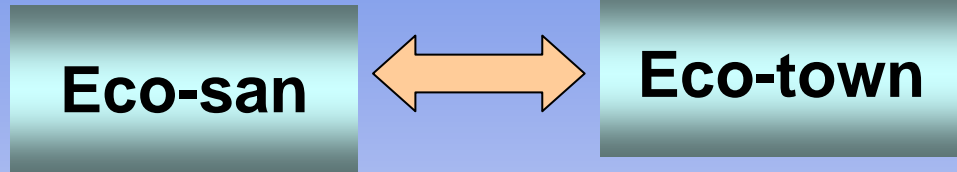
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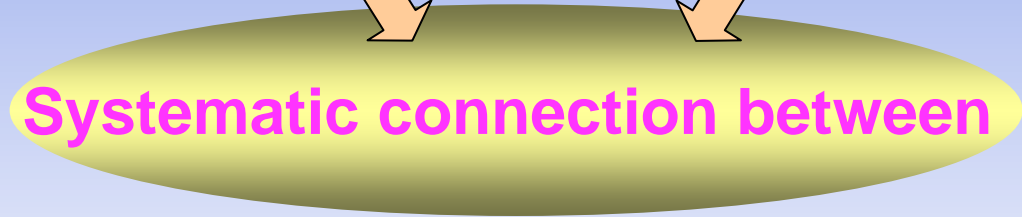


Research framework

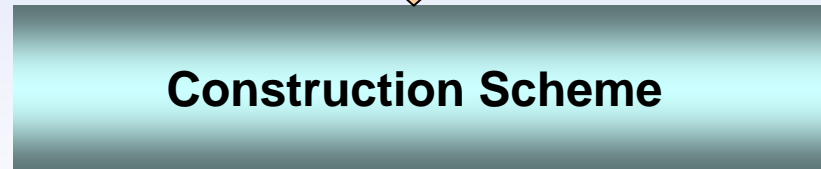
What is it?



What to do?



How to do ?

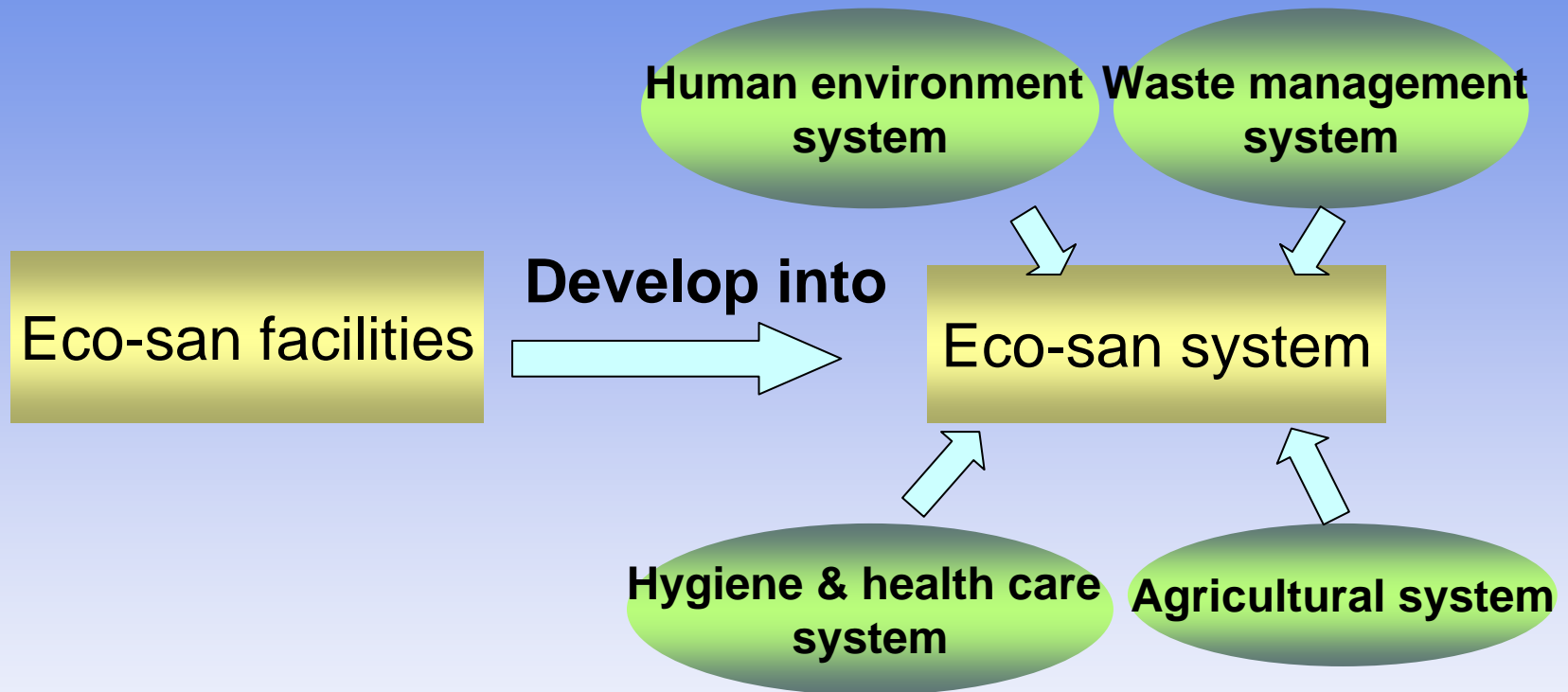




- **What is** eco-san?
- **What is** eco-town?



Concept & connotation of eco-san



On the basis of sanitation, reduction and resource utilization, the sanitized domestic sewage, excreta, solid waste, etc are utilized in a proper way
So that people's health can be protected and eco-balance can be maintained.



Concept & analysis of Eco-town System

Constitution

- **Consisting of some population, a specific geographical region and a certain community with a common sense**

Scope

- **Including three aspects of environment-society-economy**

Essence

- **Ecologicalization of environment, society and economy**

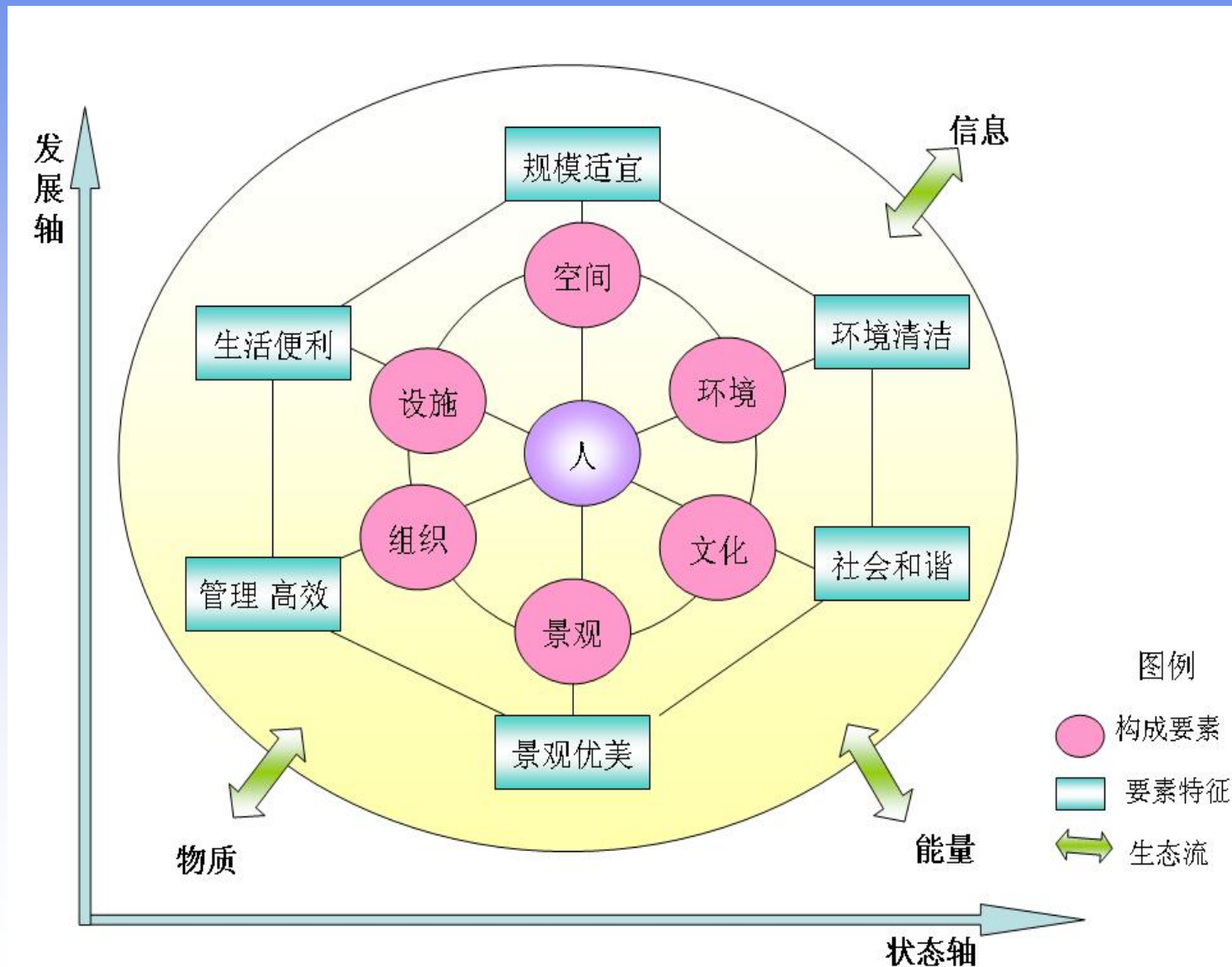
Eco-town:

“A harmonious community with proper geographic scope, population scale, a common sense of eco-culture and delightful environment suitable for living and capable of sustainable development”



Concept & analysis of Eco-town System

Analysis
Diagram
of
eco-town
system





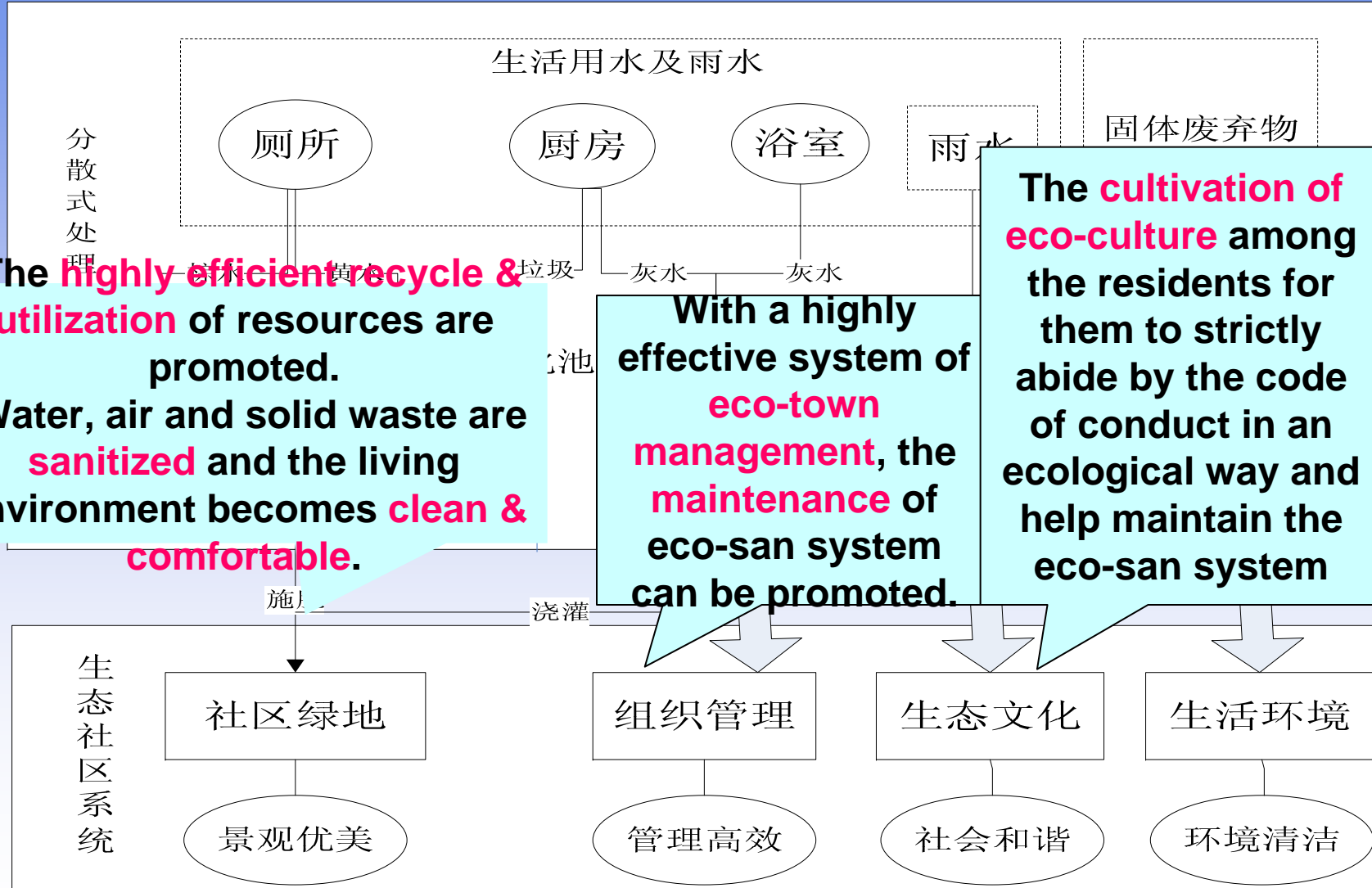
- Eco-san system

- Eco-town

-
- Two orange arrows originate from the text 'Eco-san system' and 'Eco-town' and point towards a central question. The question is part of a list of two items, both in green text.
- What is the systematic connection?
 - What needs to be done?

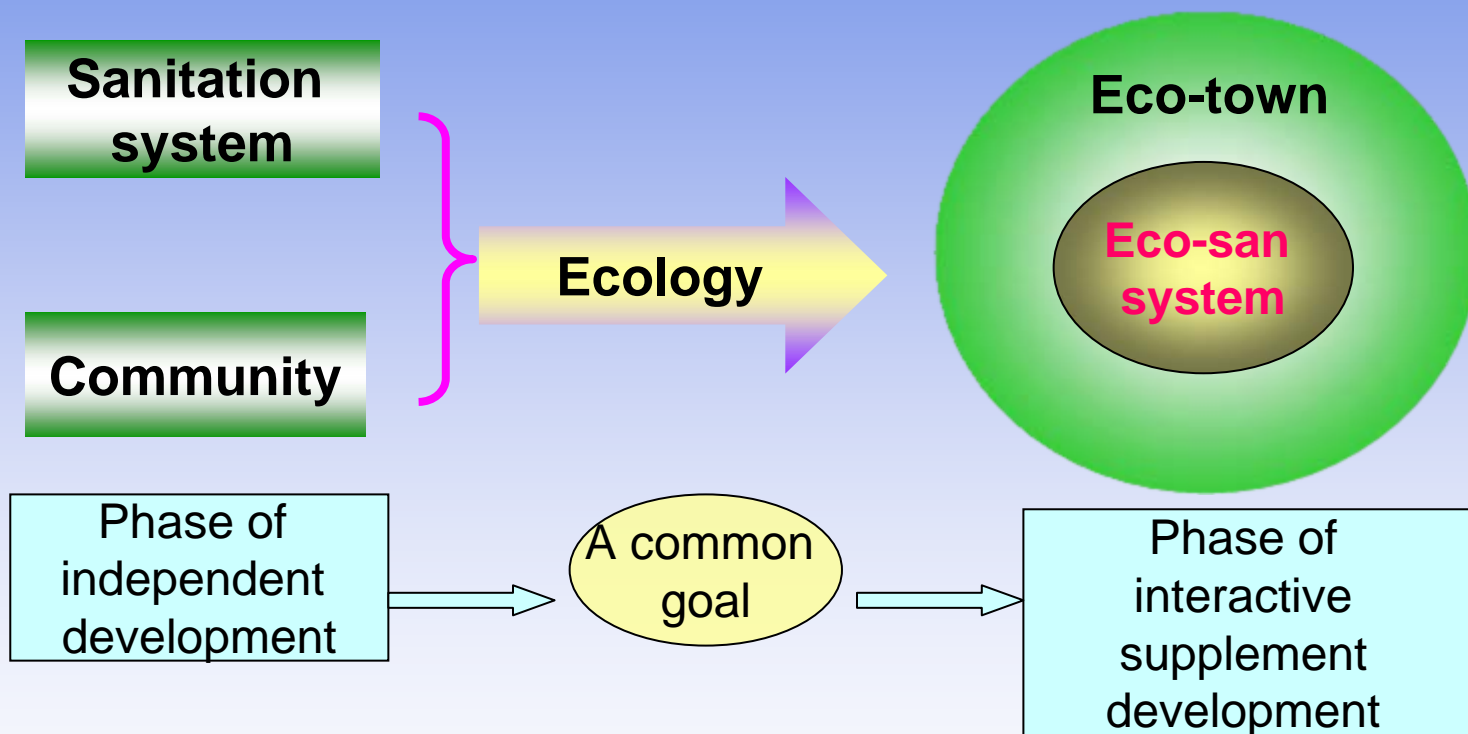


Inter-relations between eco-town and eco-san





Inter-relations between eco-town and eco-san



The construction of a eco-town is the carrier for the development of eco-san.

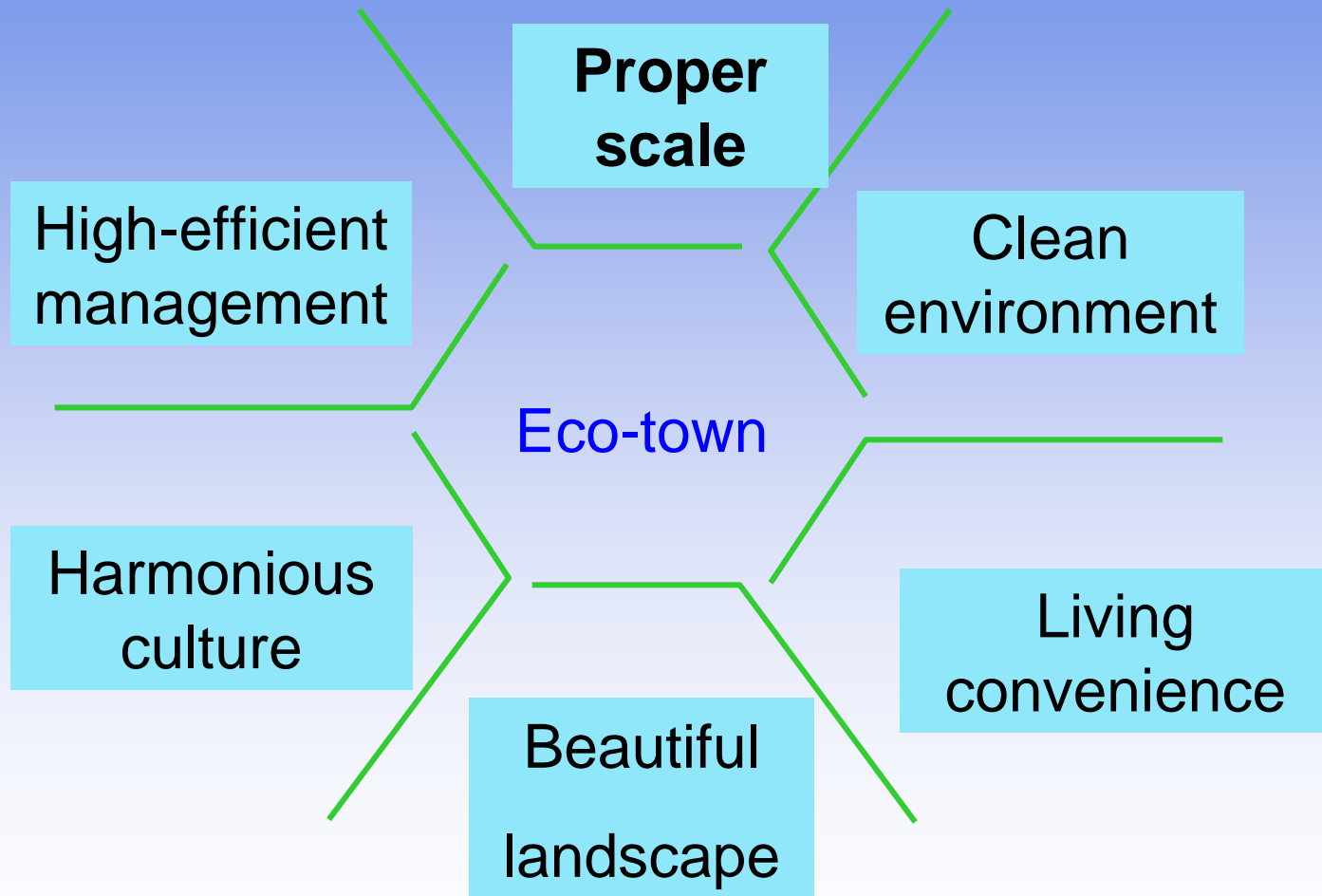
Only with the design, plan and construction of the living element of eco-town can the maintenance and development of eco-san system be realized.



How can we build an eco-town?



Main points in the design of an eco-town





Main points in the design of an eco-town No. 1—Proper scale

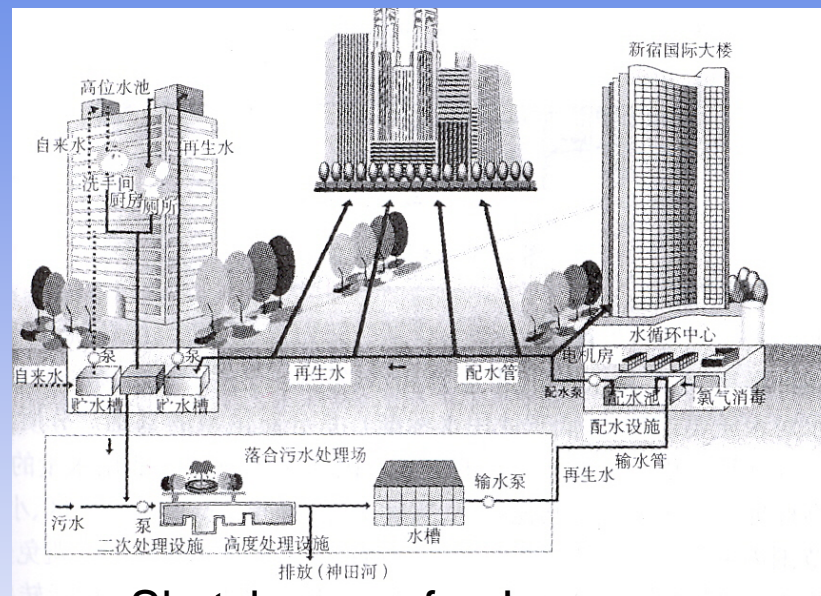
- Proper design of eco-town scale
- Rationality of eco-town location
- Rationality of overall eco-town layout



Main points in the design of an eco-town No. 2—Clean environment

Main points in the design of water environment

- Water supply & discharge according to quality
- Set up the sewage treatment system on man-made wetland
- Application of reclaimed water sub-system
- Recycle & utilization of rain water
- “Zero discharge” of sewage to the water used for landscape
- Adoption of the water-saving irrigation method--Drip irrigation
- Use of water-saving utensils



Sketch map of a Japanese application system of reclaimed water



Wetland sewage treatment of Haide Park in Yangzhou City



Main points in the design of an eco-town No. 2—Clean environment

Main points in the design of air environment

- Proper site selection
- Afforestation to create and improve the air environment
- Rational planning & layout to enable natural ventilation, e.g. overhead layer opening on the ground floor of buildings
- Control of the overall emission of air pollutants
- Promoting the use of clean energy
- Control of the emission of automobile tail gas
- Control of the air pollution by public facilities within the eco-town including the catering & commercial service facilities, the garbage collection station, etc



Main points in the design of an eco-town No. 2—Clean environment

Main points in the design of acoustical environment

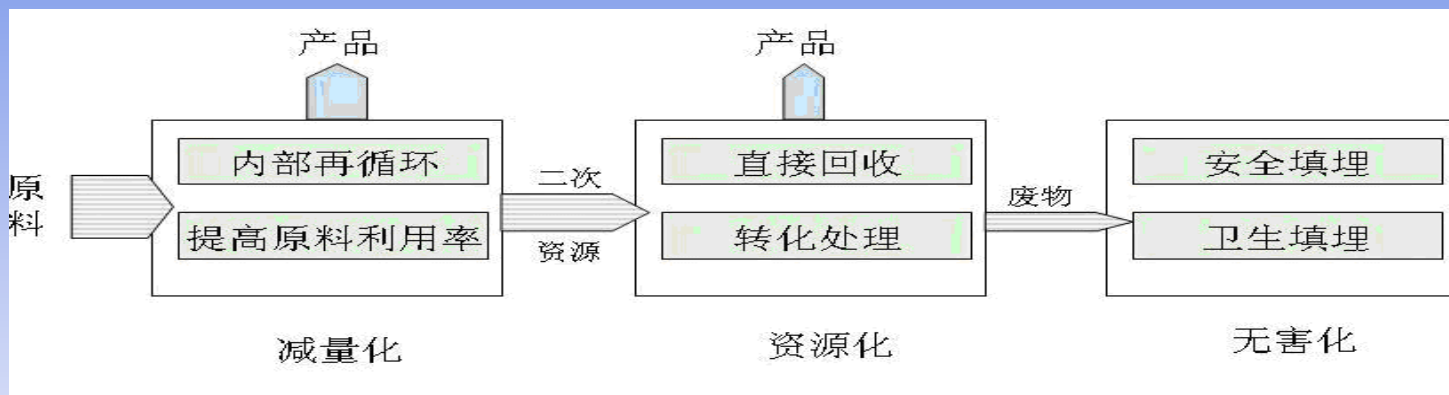
- Reduce noise with proper layout of buildings
- Reduce noise by enhancing the construction of green belts (overall width of about 10-15m is needed)
- Reduce traffic noise with proper traffic management & road facilities improvement.
- Selected use of sound-proof wall materials in a proper way
- Control of noise let-in from outer doors & windows





Main points in the design of an eco-town No. 2—Clean environment

Plan for the management & disposal of solid waste

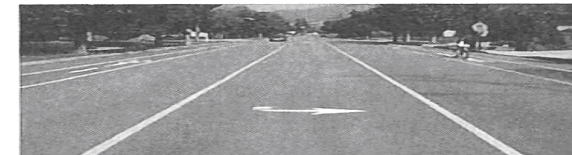
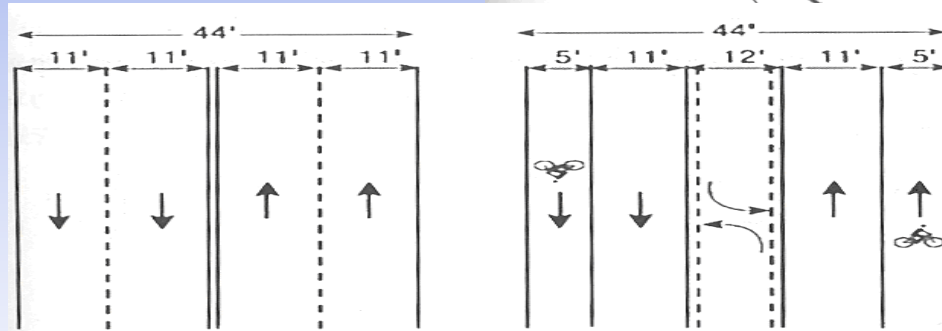
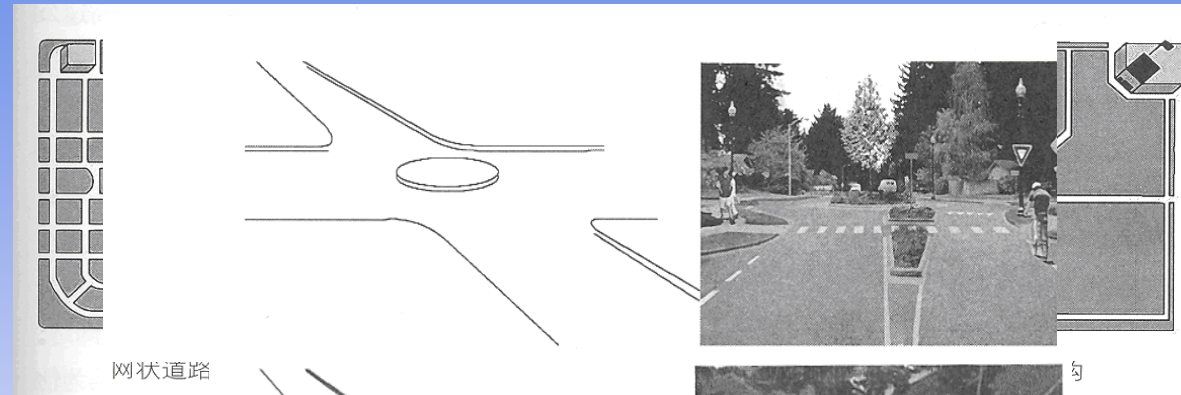


- Classified collection of solid waste
Classified garbage collection by setting up a “solid waste collection for reuse” system
- Waste reclamation: Set up an ecological industry chain for urban solid waste
- Effective management of solid waste



Main points in the design of an eco-town No. 3—Living convenience

Green traffic design



- Improve basic road facilities & construct a rational road structure
- Creation of a good walking environment for residents
- Keep the road fit & raise the bike use rate at road sections with a comparatively large flow of commercial and residential population
- Make great efforts in developing public transport & optimizing its operation conditions



Main points in the design of an eco-town No. 4—Beautiful landscape

Green area construction in the eco-town

Beautiful landscape mainly refers to the green area construction in the eco-town.

Ecological function



Leisure function



Landscape culture function





Main points in the design of an eco-town No. 4— Beautiful landscape

Green area construction in the eco-town

Ecological function of green areas

➤ **Proper redistribution of green areas**, and set up a green area system with various service radiuses for the accessibility of residents to the favorable green environment and the space for outdoor activities

Area	$\geq 10000\text{m}^2$	$1000 \sim 10000 \text{ m}^2$	$\leq 1000 \text{ m}^2$
service radius	500m	300m	100m

- **Concentration of plant disposition:** With over three trees of arbor every 100m^2 of green areas by combining arbor, shrub and grass
- **Ensure soil & water conservation by putting the paved area and paving material under strict control**



Main points in the design of an eco-town No. 5—Harmonious society

Strengthening the construction of spiritual civilization

- 1 General formation of a common sense of ecological maintenance and protection of both internal and external environment of the eco-town to help the residents to establish values of eco-culture
- 2 By adapting to local conditions and adroitly guiding action according to circumstances, carry out joint construction and share as well as give full play to the advantages and outshine the features
- 3 Build a wide-spread culture network of the eco-town with powerful linkage
- 4 Provide preconditions for spiritual and cultural activities in the eco-town by improving its hardware environment
- 5 Form consuming habits that are environment-friendly and resource-saving



Main points in the design of an eco-town No. 6—High-efficient management

- 1 Improve the organizations and the eco-town management system
- 2 Set up the management information system of the eco-town
- 3 Establish the management method of bi-directional communication
- 4 Strengthen the construction of eco-town working-team
- 5 Innovate the management system



Thank
you!