

The Circular Economy in Asia and the Pacific

Regional Workshop on “Enhancing Urban
Resource Efficiency and Circular Economy in Asia
and the Pacific”

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Structure

1. The concept of circular economy
2. Circular economy in the context of cities in Asia and the Pacific
3. Solutions and practical examples

1. The concept of circular economy



What is a circular economy?

Underlying idea

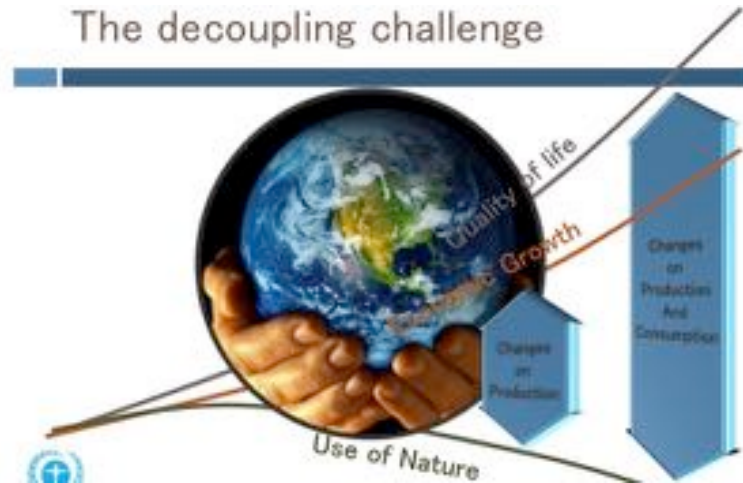
- From linear flow of materials (take, make and dispose)
→ circular flow (reduce, reuse and recycle)

Ultimate objective

- decoupling of economic growth from natural resource depletion and pollution

Case

- Life-cycle of economy; waste of one manufacturer becomes input of another.



The four principles of circular economy

1

Preserve and
enhance
natural capital

2

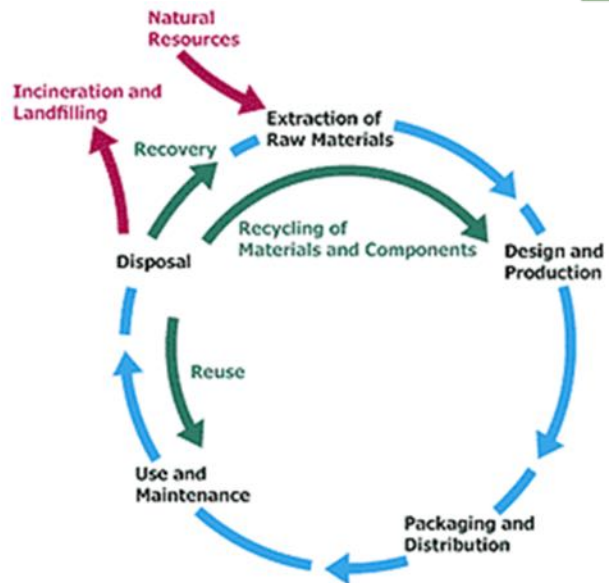
Optimize
resource
efficiency

3

Foster system
effectiveness

4

Follow a life
cycle approach



Circular economy supports achievement of the SDGs



2. Circular economy in the context of cities in Asia and the Pacific



The situation in numbers in Cities of Asia and the Pacific

- Over **half of the population** of the region lives in urban areas – growing rapidly
- Driving **75% of national GDP** as per global trends
- **Changing lifestyles** with consumption and emissions impacts- facing the demand is a big challenge (infrastructure, technology, investments)
- They **consume 80% of material use** in the region, already very high (59% of global use and growing rapidly)
- They **produce 80% of CO₂ emissions** in the region, which is the highest energy using region of the world
- They **produce large amounts of liquid and solid waste**- lack of capacity to treat/dispose of them-leading to high levels of pollution and inefficiencies
- **Social issues** (inclusiveness, etc.)

So....

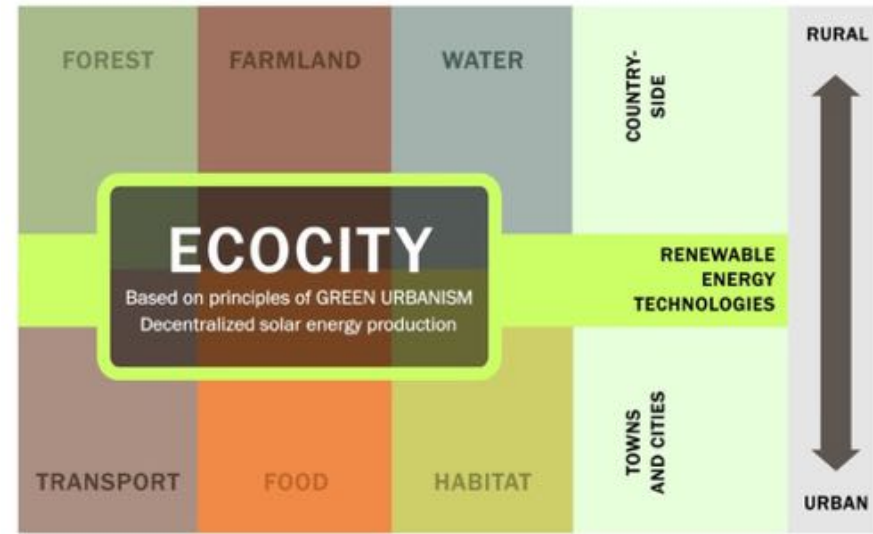
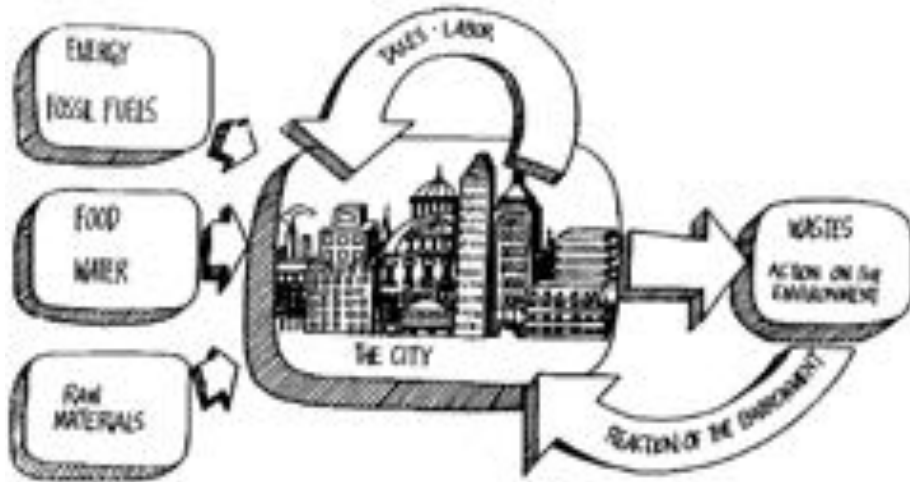
- Cities in the region have resource efficiency and SCP issues but also have the **biggest potential** for impactful solutions

Pareto principle

- 80% of impact might be attributed to just 20% of causes



Let's find and focus on the 20%

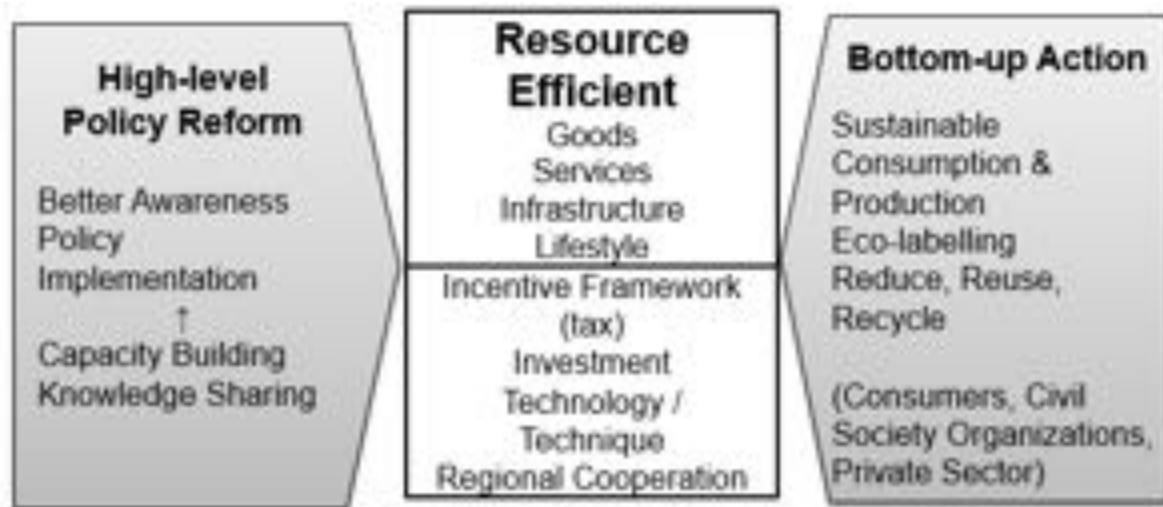


- Cities as living organisms/ecocities
- Application of circular economy within the city limits but also as part of wider economy/ecosystems
- Need to close multiple loops

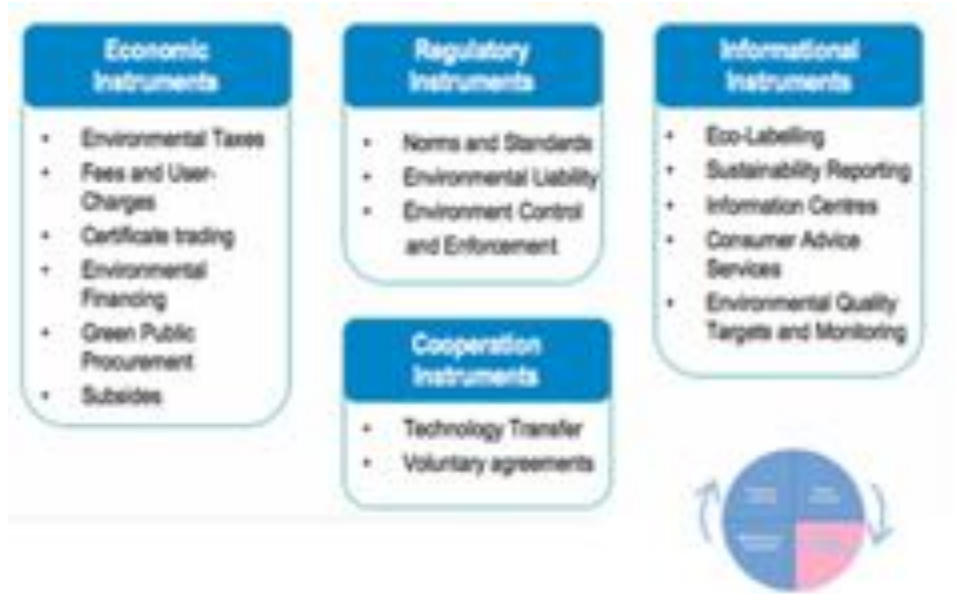
3. Solutions and practical examples



How to achieve a circular economy?



Policy Instruments



Somaegok, Korea: Eco-friendly energy town

- To encourage renewable energy use, the Korean government funds the “Eco-friendly Energy Town” initiatives for communities.
- Somaegok had smell issues with sewage and manure treatment plants
- The Eco-friendly Energy Town initiative helped the town transform the pollutants and by-products generated from the plants into biogas and fertilizer, and to build a new solar power plant.
- 3,000 cubic metres of biogas are now refined each day into 2,000 cubic meters of liquid natural gas which is sent to households, and 1,166kw of power is generated from the solar plant which is deposited into the town’s joint bank account.



Sino-Singapore Tianjin Eco-City: Eco-city development in China

- One of China's strategies to decouple urbanization from environmental pollution is the Green Eco-city Development.
- 100 new urban areas have been selected to demonstrate the eco-city concept, one being the Sino-Singapore Tianjin Eco-City (SSTEC).
- SSTEC is the result of a bilateral agreement between China and Singapore, and is intended to support a population of 350,000.
- The city is 4 square kilometres, with key features including connectivity between home and work; promotion of public transports, walking and cycling; green corridors for improved ecological functions, water conservation and livability; effective waste management and recycling; and renewable energy.
- Long term success/foreseen to significantly influence future Chinese cities' planning and design.



Singapore: Singapore Green Labeling Scheme

- In 1992, the Singapore Environment Council created the Singapore Green Labeling Scheme for consumers to easily distinguish truly eco-friendly products amongst the green-washing trend.
- Endorses industrial and consumer products for their environmental-friendliness
- International recognition by 25 member countries of the Global Ecolabelling Network
- 3000 certified products across 28 countries, those certified have seen improved marketability from national and international consumers and businesses.





Japan: Eco-labels for energy efficient buildings

- Voluntary housing performance labels created by the Housing Quality Assurance Law (2000).
- Standardizes the criteria for evaluating building performance including structural stability, fire safety, indoor air quality, acoustics, lighting and thermal performance, consideration for the aged, and energy efficiency.
- The standards of the assessment, and the private certification companies are established/selected by the Japanese government.

Thailand: Green Public Procurement

- Driver: The Royal Thai Government is the largest consumer in Thailand- The Pollution Control Department within the Ministry of Natural Resources and Environment developed the Green Public Procurement (GPP) plan in 2005.
- The GPP encourages the government to procure only procuring green products meeting the “green cart” criteria.
- Though the GPP is voluntary, the Pollution Control Department encourages participation through offering training workshops and information to procurement staff, as well as recognizes and rewards offices that use the most green products and services.
- Each government agency report on their procurement annually to asses progress against targets
- GPP resulted in an increased use of eco-labelled products and an increased demand for green products thus lowering in their cost.
- However there are still difficulties to achieving full compliance on the initiative and access to green products across the country.



Tokyo, Japan: CO₂ cap and trade emission trading scheme

- The Tokyo Metropolitan Government (TMG) developed this cap-and-trade system that focuses on large office buildings in the city center of Tokyo.
- The city centre was chosen as it contributed to 40 percent of CO₂ emitted from the commercial sector.
- The program is based on a five year period in which targets and goals for CO₂ reductions and emissions are set.
- To avoid going over their allowance, installations can engage in carbon off setting and trading, but cannot bank or borrow.
- Installations that do not fulfil their obligation are required to reduce 1.3 times the shortage, pay a fine (round 500 thousand yen), and have their violation released to the public.



Chiang Rai, Thailand

- Sensitive ecosystems in and around Chiang Rai are under severe pressure from rapid urban development and tourism.
- In 2008, the local government initiated the “Enhancing Urban Ecosystems and Biodiversity in Chiang Rai City” project for restoring and conserving the biodiversity and diverse ecosystems in the city area, and preserving the services they provide (carbon sink and food supply)
- In 2011, this initiative received a UN-Habitat award for good practice in urban biodiversity conservation.



Melbourne, Australia

- Adopted an urban forest strategy which would create a green network and expand the city canopy cover to 40% to help with climate change adaptation, mitigate the urban heat island effect by bringing down inner-city temperatures; creating healthier urban ecosystems; manage and conserve water; and engage and involve the community in city development.





Thank you!

