



Group 2: Delivering LCS through Sustainable Development

# Sustainability for all



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# Sustainable development

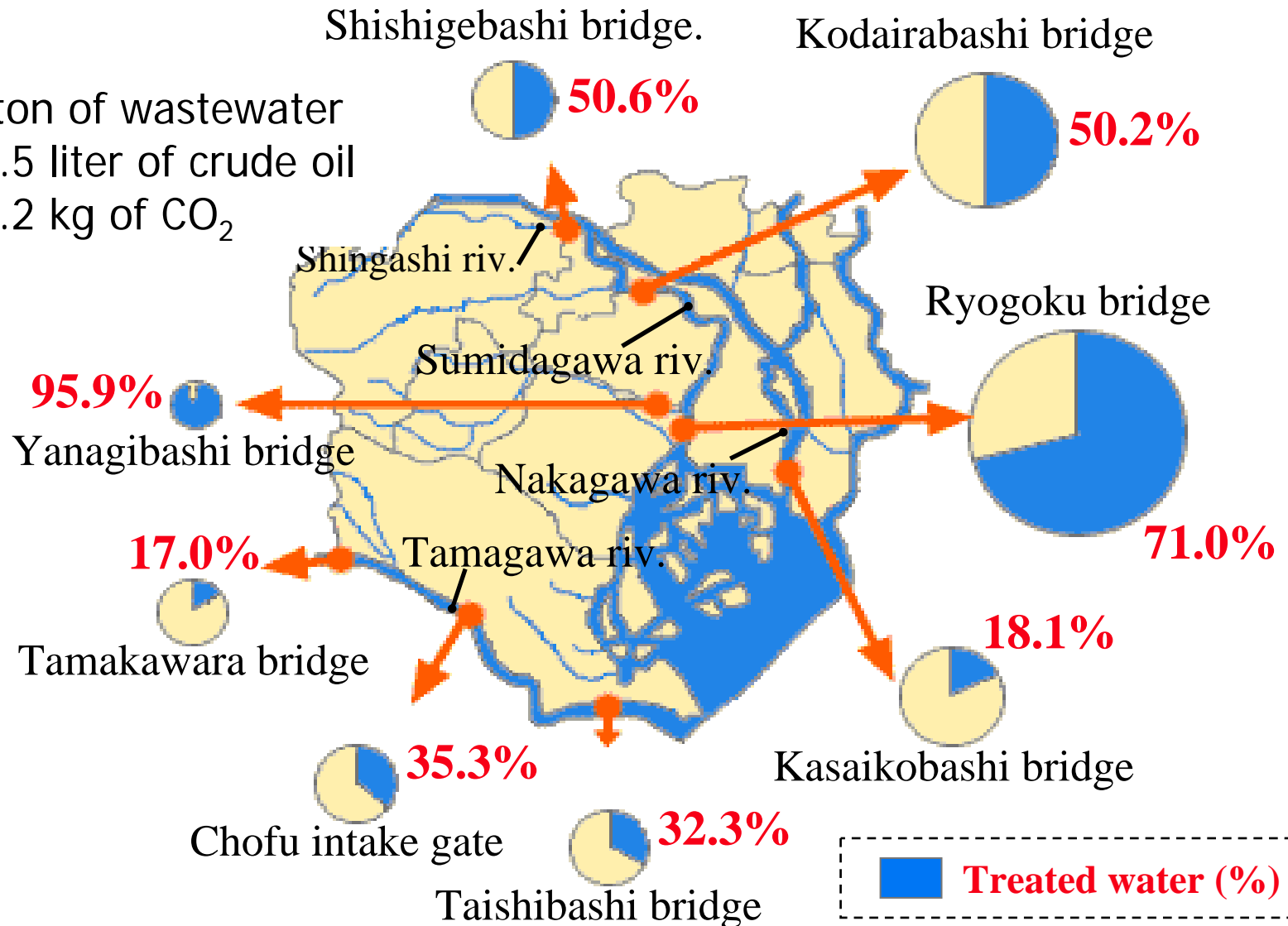
- SD has been considered in mainly natural resources and environment.
- Climate change issues have been introduced recently
  - Large impact to developing countries
  - Fear of developed countries from loosing current quality of life and properly

# Development and environment

- They are busy for the development
- Wastewater, air pollutants, solid wastes are treated properly/improperly for most of middle-large scale industries in Thailand, Malaysia, Indonesia---at least they realize problems

# River water in Tokyo need energy

Purify one ton of wastewater  
 = approx 0.5 liter of crude oil  
 = approx 0.2 kg of CO<sub>2</sub>



Source: Bureau of Sewerage, TMG

# Sewer system

- Sewer system
  - Pipeline to drain storm water
  - Pipeline to drain wastewater from houses and buildings
  - Treatment facility to treat wastewater (energy intensive)
- Cost for treatment facilities are not so much
- Cost of sewer pipes for all cities are beyond the economic level of the world (Peter A. Wilderer)
- Practices in developed countries may not be suitable

# Pathways for sustainable urban environment

- Ultimate model of urban environment for developing countries is not established (cities in developed countries may not be suitable)
- Development and urban infrastructure should be balanced
- However, environmental issues are carefully considered especially in urban areas in developing countries
- Climate change issues are well known, but not major driving force for action



# End of the presentation

