



# Solid Waste Management Policy in Historic City of Kyoto

## ~Collaboration with Vientiane Capital~

Nov. 2015

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\* Do You Do Good for Environment?



# Today's Presentation

- 1 Outline of Kyoto  
– beauties of four seasons
- 2 Solid Waste Management Policy  
of Kyoto City
- 3 Collaboration with Vientiane  
Capital





# 1. Outline of Kyoto

– beauties of four seasons





# Kyoto – beauties of four seasons



# Kyoto – Historic and living city

City of Kyoto



# Outline of Kyoto City



**Population: 1,470,000**  
**Area: 827.9 km<sup>2</sup>**

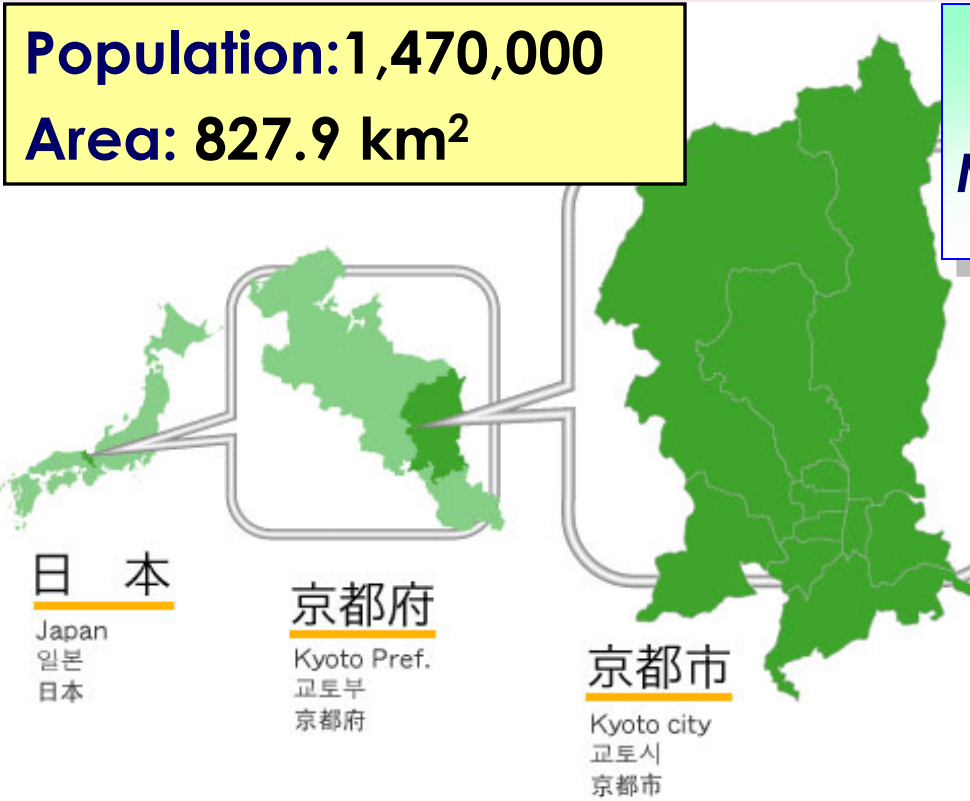
**More than 1,000 years' history,  
Many cultures as an ancient capital**

**More than 50 million visitors  
(domestic and overseas)**

**Innovative city with  
manufacturers and University**

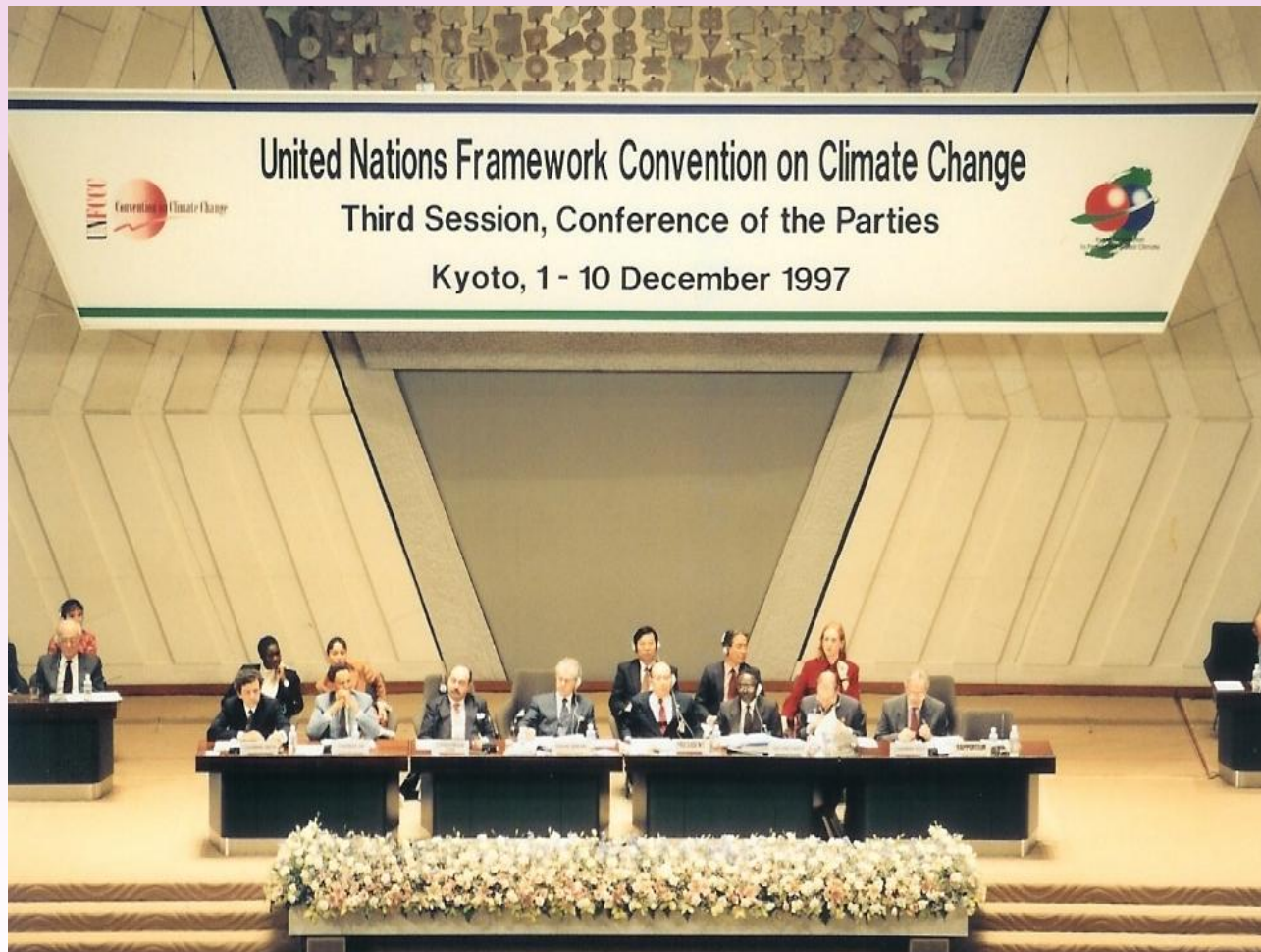
**3/4 of area is forest,  
Beautiful city with nature**

**Self-governance of citizen  
and strong community**





# Birth place of “Kyoto Protocol”



**COP3 (Dec.1997)**

As a host city of COP3 and Kyoto Protocol, many trials have been done for tackling global warming



## 2 Solid Waste Management Policy of Kyoto City







# Goal of Waste Management in Kyoto City

## 【Basic Goal of Waste Management】

- Quality living environment and improved public health
  - ◆ Efficient waste collection and transport
  - ◆ Sanitary disposal of waste

Almost achieved the basic goal.  
Toward the more ambitious goal to be set

- ① Promotion of reduction and recycling of waste
- ② Waste to energy
- ③ Beautification of the city



# Overview of Kyoto's Waste Management

Waste amount (2014) 461,000t/year

**Households: 229,000t** (collected by Kyoto City Gov.)

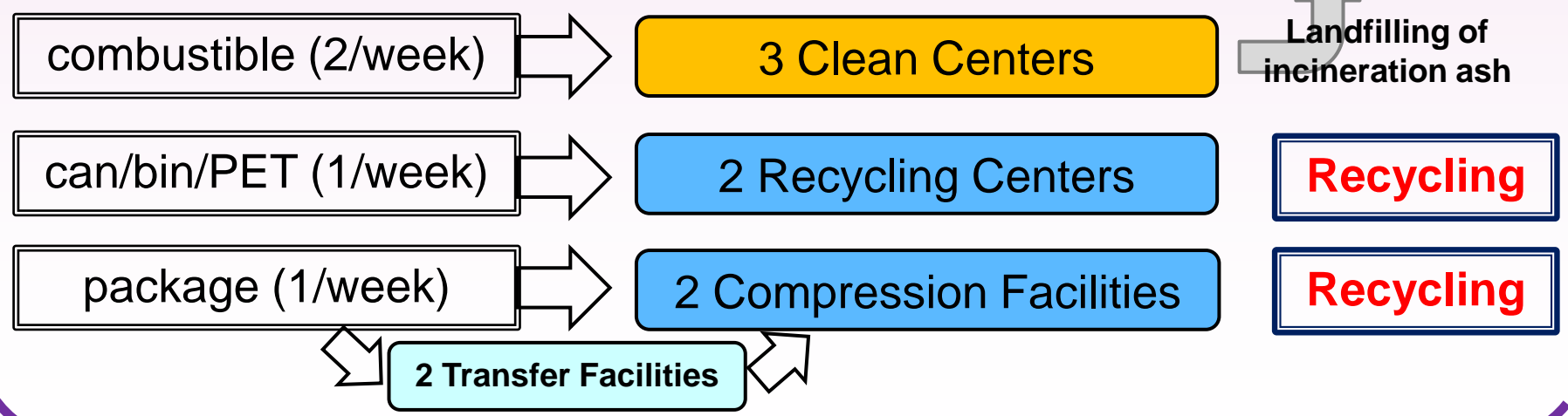
\* Note that part of waste collection is committed private entities

**Industries & businesses: 232,000t**

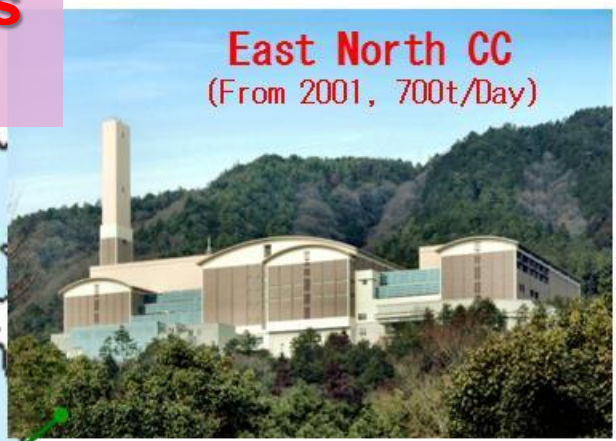
(Emitters took contacts with private collection entities)

## Collection & Transport of household waste

7 collection offices, and 188 waste collection vehicles



# Waste treatment plants in Kyoto city

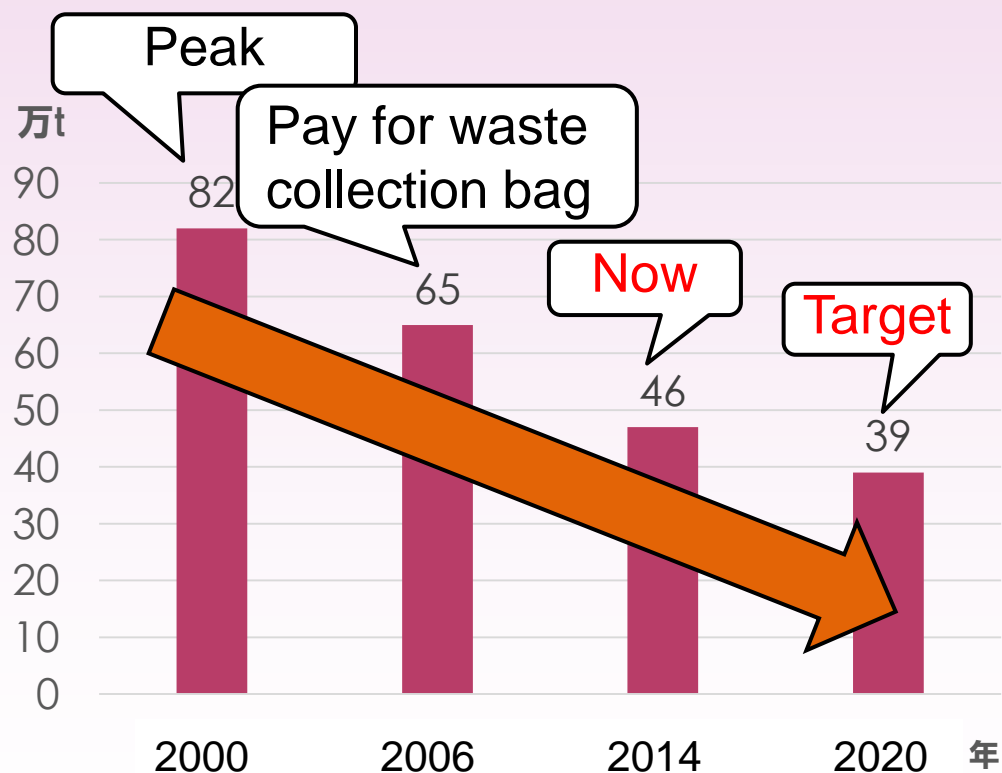


**CC: Clean Center**



# Reduction and Recycling of Waste

43% reduction of total waste amount from the peak (2000)



Reduction of waste  
→ Environmentally friendly  
material cycle society

- Reduction of waste incineration plants: 5 plants (2004) → 3 plants (2012)
- Reduction of related cost: 36.7 billion JPYen (2006) → 26.1 billion JPYen (2014)



# Waste to Energy

- ◆ Surplus waste heat is used for electric power generation
  - Sales of electricity: 79,600,000kWh (1.6 billion JPYen)
- ◆ Biodiesel fuel (BDF) project
  - Collect used cooking oil from household: 1,800 station
  - BDF production 1,050,000 L/y
  - 136 waste collection vehicle (B100), 92 City bus (B5)



- ◆ Bio-gasification plant
  - Bio-gasification from food/paper waste and power generation(1,000kW) in new incineration plant



# Beautification of the City

## Promoting “World’s Most Beautiful City, Kyoto”



門掃き: *Kado Haki* (= Entrance clean-up)  
 Kyoto's traditional customs of citizens' life to clean up the surrounding of own houses by sweeping out every morning



### Promotion of city beautification (cleaning-up) activities with citizens' voluntary

- Holding participatory event “All citizens' actions for city beautification”
- Inheriting traditional customs “*Kado Haki*” to the present lifestyle



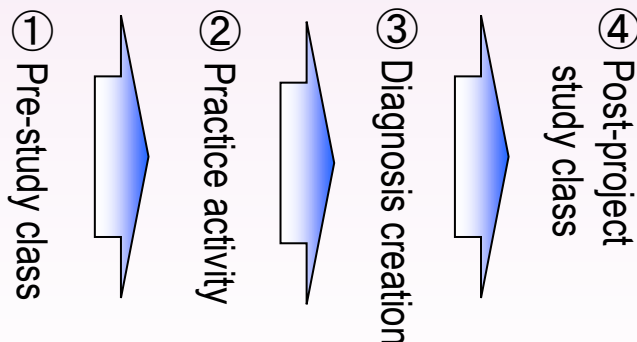


# Environmental Education

## Children's Eco-life Challenge Promotion Project



- The purpose is to review the lifestyle of each home from the perspective of a child by better understanding the problem of global warming
- The study class instructor is a volunteer citizen who conducts the study class in a lesson at elementary school
- Environmental household account books for children are used and the whole family practices the eco-life in the summer or winter vacation
- A retrospective study class is then held



FY2005: Starts in 1 school

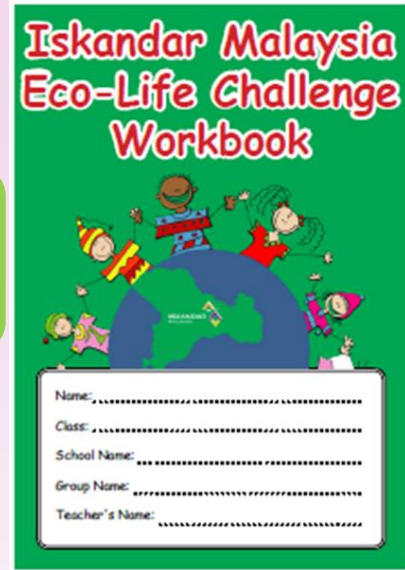
→ FY2010: Conducted in all (166) elementary schools in Kyoto City



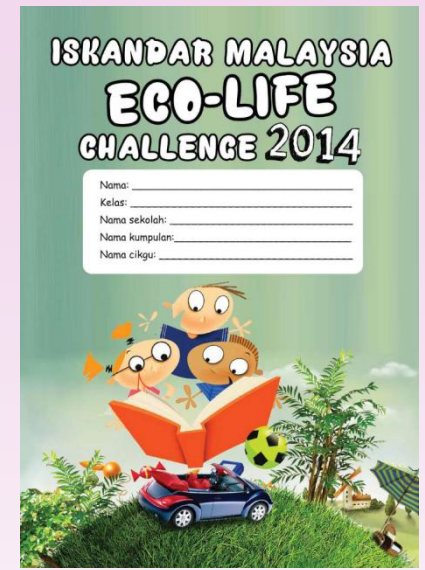
# Children's Eco-life Challenge in Malaysia

## Iskandar Malaysia

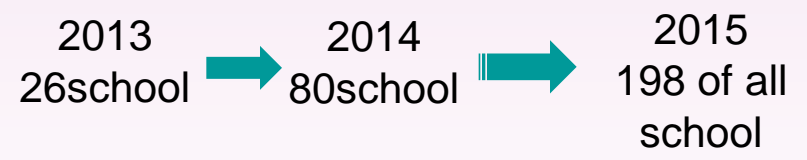
- Realization of both Low-carbon society and Economic growth
- 40% reduction of GHG by 2025



(ver.2013)



(ver.2014)







# 3 Collaboration with Vientiane Capital





# City-to-City Cooperation

2013 Mayor of Kyoto went to Vientiane

- ◎ Promotion of City-to-City Cooperation
- ◎ Request for Garbage Problem



2014 Laos government donated 4 child elephants to Kyoto

Premier Thongsing and Mayor Kadokawa



3<sup>rd</sup>. nov.2015 Conclusion of Partner-City Agreement  
Signature of MoU on Environment Cooperation



# Technical Cooperation on Environment Policy

Implementation of Technical Cooperation PJ on Environment Area(from 2014)

- ① Assistance for Low-carbon Historic City Policy
- ② Capacity Building on Solid Waste Management
- ③ Feasibility Study of GHG Reduction PJ

Utilization of Subsidy Menu of Japanese Government

- JCM Feasibility Study Project (MOEJ, 2014~)
- Grass-root Cooperation Project (JICA, 2015~)



# ① Assistance for Low-carbon Historic City Policy

- Vientiane Capital: historic city with plenty of historic and cultural heritage
- Necessary to resolve urban problems for sustainable development
- Provide experience and knowledge, technique of Kyoto City



**International Work Shop**



**Signature of Minutes**



## ② Capacity Building on Solid Waste Management

- Utilization of JICA Grass-root PJ (Nov.2015~)
- Capacity Building on Solid Waste Management for proper treatment and promotion of 3R
- Toward problem solving, autonomous activity of three set of Project Team



Signature of MOU on Grass-root PJ  
(Sep.2015)



## Steering Committee: Vientiane Capital

DoNRE, VUDAA, DoFA, DoEducation

**supervise**

**autonomous  
activity**

### II Separation System PT

- Separation Tech FS
- Model Implementation
- Separation System Study

**collaboration**

### I Collection PT

- Research for Efficiency
- Separate collection Study
- Model Implementation

### III Education PT

- Tool for Education
- Enlightening Campaign
- Model Implementation

**assist, consultation**

## JAPAN Support Team

Kyoto City, Global Environment Centre Foundation, Private Companies



### ③ Feasibility Study of GHG Reduction PJ

- Utilize advanced environmental technology of Japanese private companies
- Reduce GHG emission and create JCM credit
- Realize technology transfer

I Biogas generation from organic waste and its utilization  
【Hitachi Zosen Corporation】

II Coal consumption reduction project (including usage of biomass)  
at salt production factory  
【Japan Environmental Consultants】





**For realizing sustainable historic city of Kyoto**



**Thank you for your kind attention!**