

Yokohama's Waste Management and International Technical Cooperation

11th April, 2018

Noriko SAITO

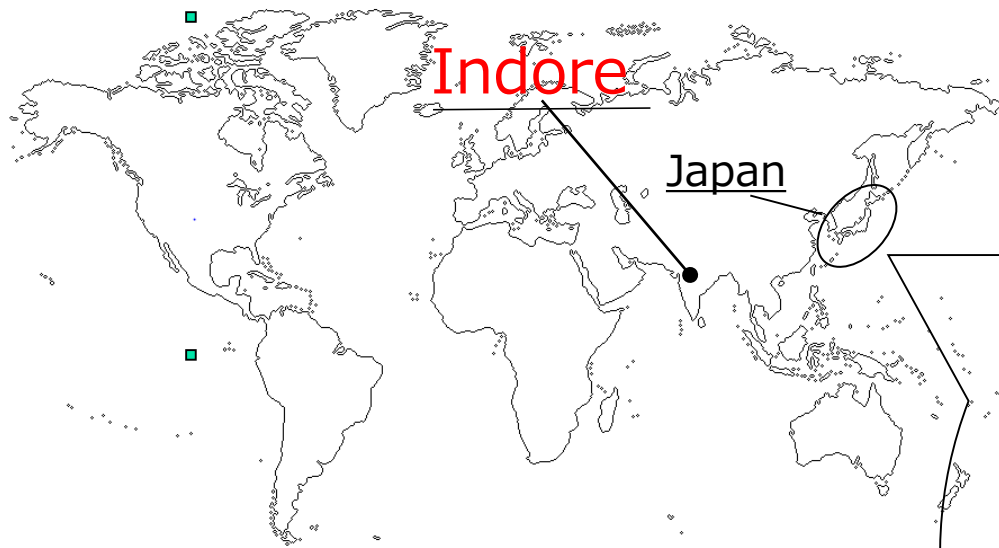
Executive Director

Resources & Waste Recycling Bureau

City of Yokohama

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Yokohama City



Population (as of September 2017)	3.73million
Area	435.3km ²
Population density	8,578persons / km ²
GDP (FY 2014)	102.8billion USD

Sister-City Relations: Yokohama & Mumbai

The **Golden Jubilee** of Sister-City Relations was celebrated in 2015



1965

The **First** Japan-India Sister-City Relationship



2015

OUTLINE



1. *Our Efforts in Waste Management*

1-1 *Waste issues with urban development*

1-2 *3R efforts by Citizens and Businesses*

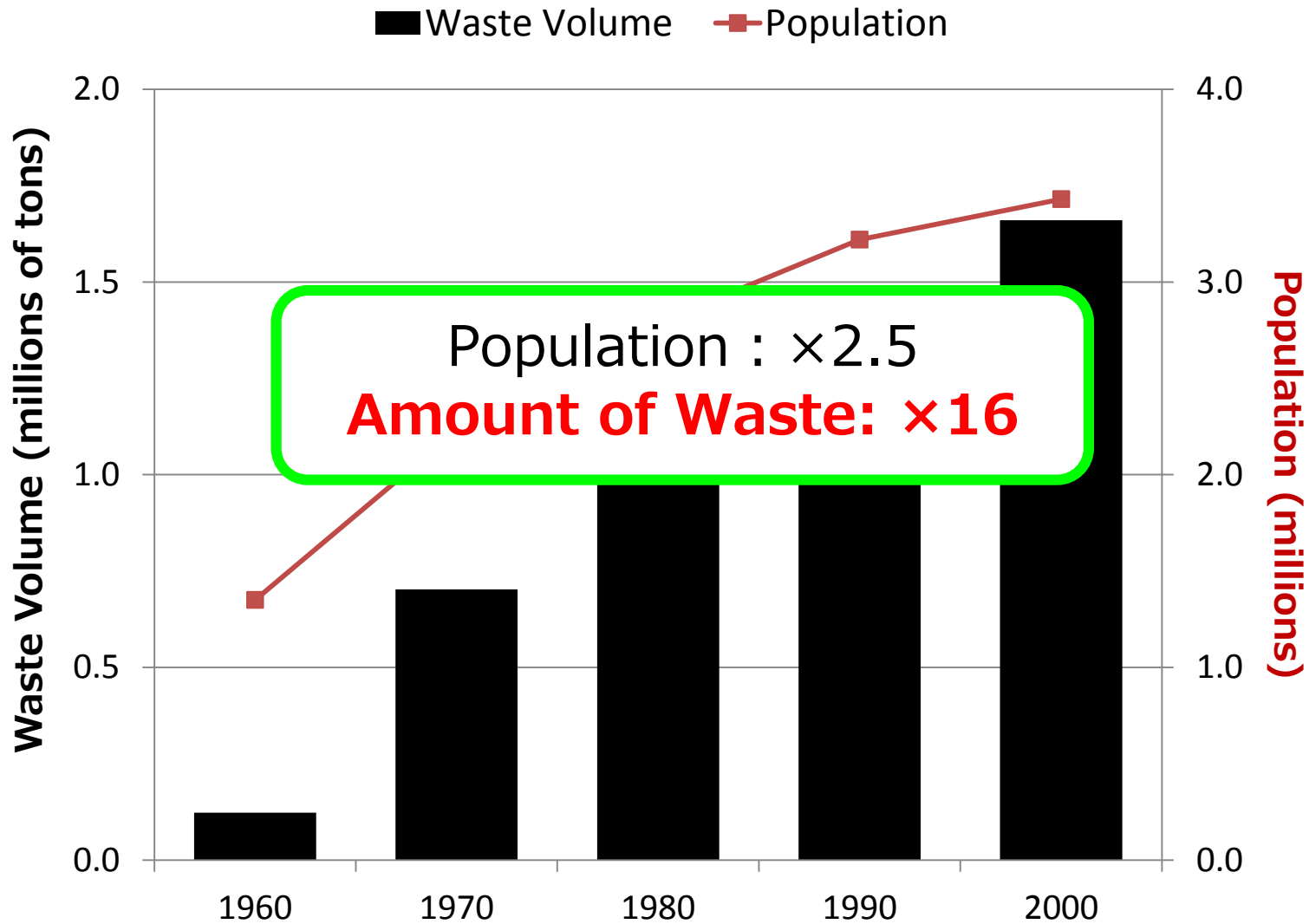
1-3 *Effective use of waste to energy*

2. *City to City Collaboration*

Sharing Yokohama's Experience

- Case Study: Da Nang City, Vietnam

Issue - Increase in waste generated



Issue - Increase in waste generated

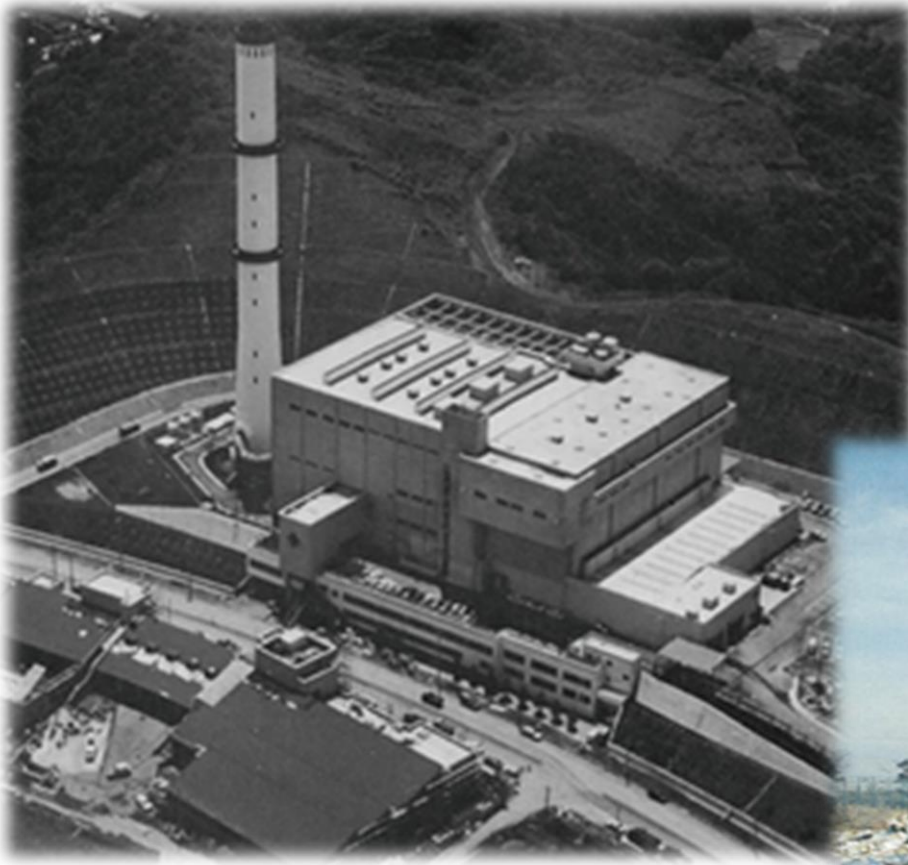


Final Disposal Site
in the 1970s

Oversized Waste
Overflowing
in the Street



Issue - Incineration alone is not enough



Construction of
Incineration Plants



Landfill of
Incineration Ash



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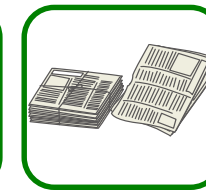
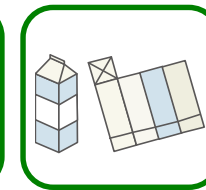
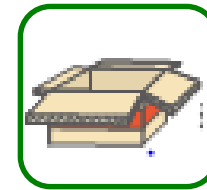
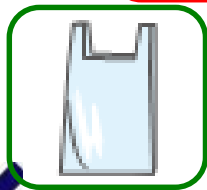
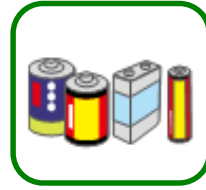
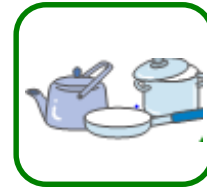
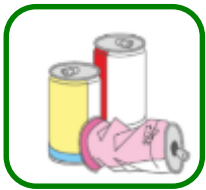
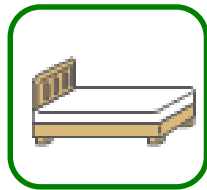
Sharing Yokohama's Experience

- Case Study: Da Nang City, Vietnam

Response - Waste Separating



Separating 「Waste」 and 「Recyclables」



Response - Raising Citizen Awareness

Briefing Sessions

11,000 times
(FY2004-2005)



Educational Program

1,400 times/year



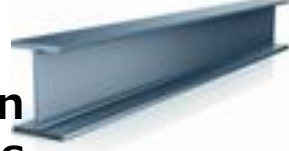
Response - Expansion of Market for Recyclables



**Steel Cans
Aluminum Cans**



Aluminum Cans



**Construction
Materials**



Bottles



Bottles

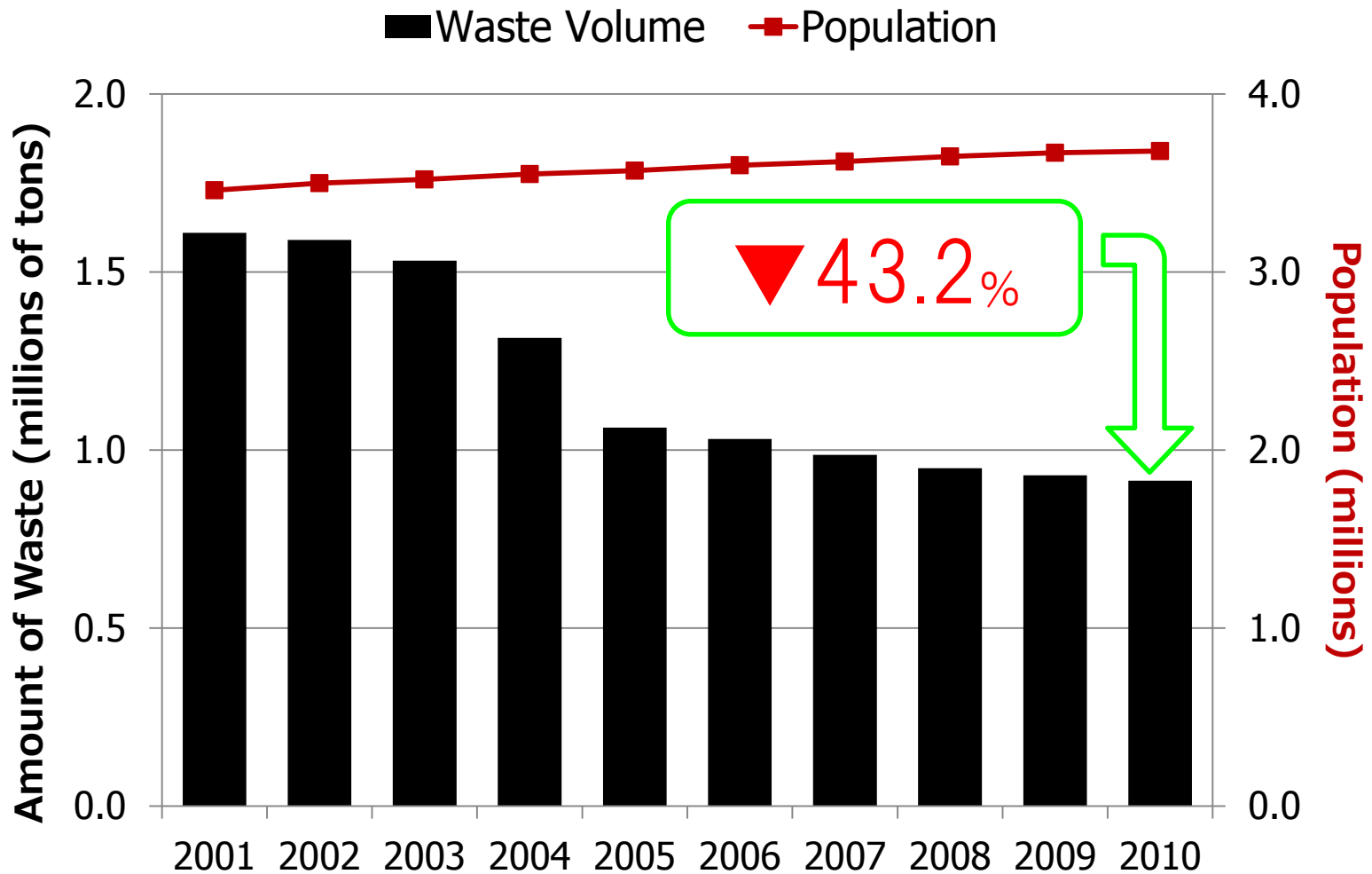


Plastic Bottles

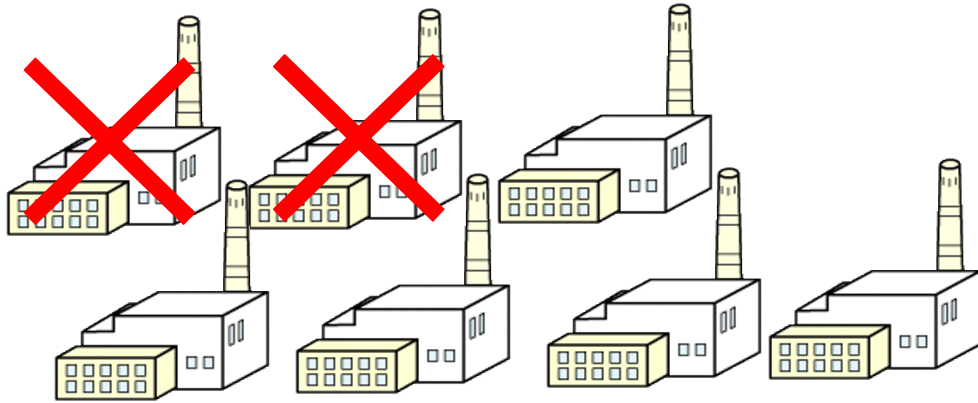


Fiber

Result - Reduction in total volume of waste



Result – Reduced need for incineration



Incineration Plant



**Benefits equivalent to
US \$ 1 billion**

Result – Extended life of landfill sites



**Extended lifespans
by more than 10 years**



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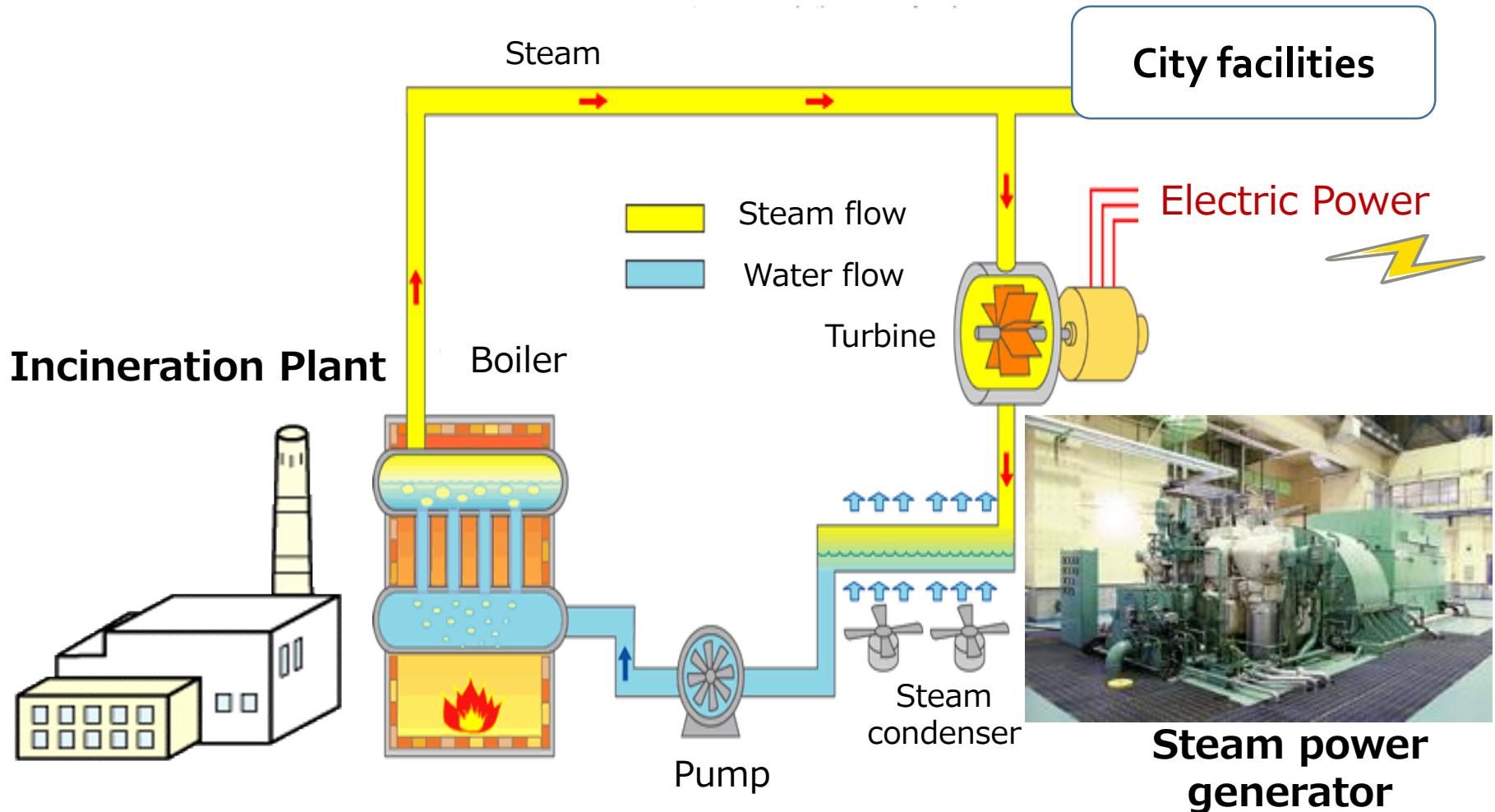
1-3 Effective use of waste to energy

2. *City to City Collaboration*

Sharing Yokohama's Experience

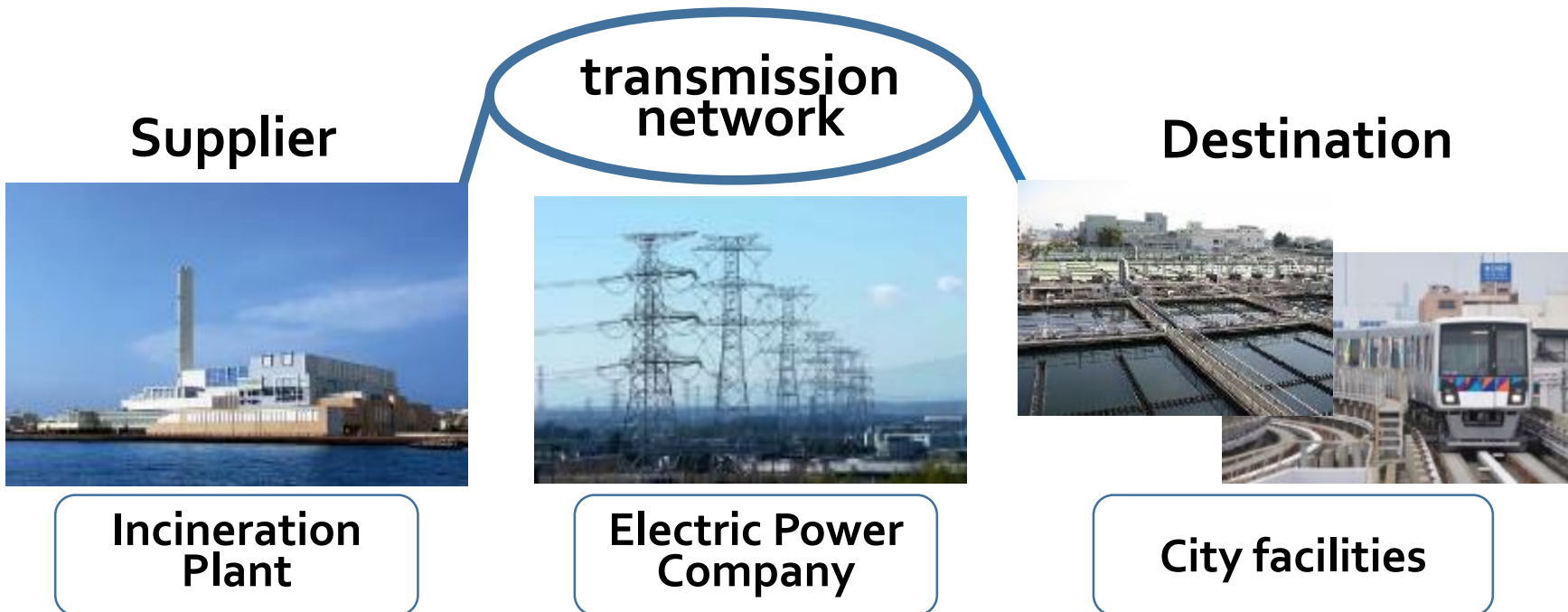
- Case Study: Da Nang City, Vietnam

Effective use of waste to energy



Effective use of waste to energy

Providing Electricity Worth
100,000 Households





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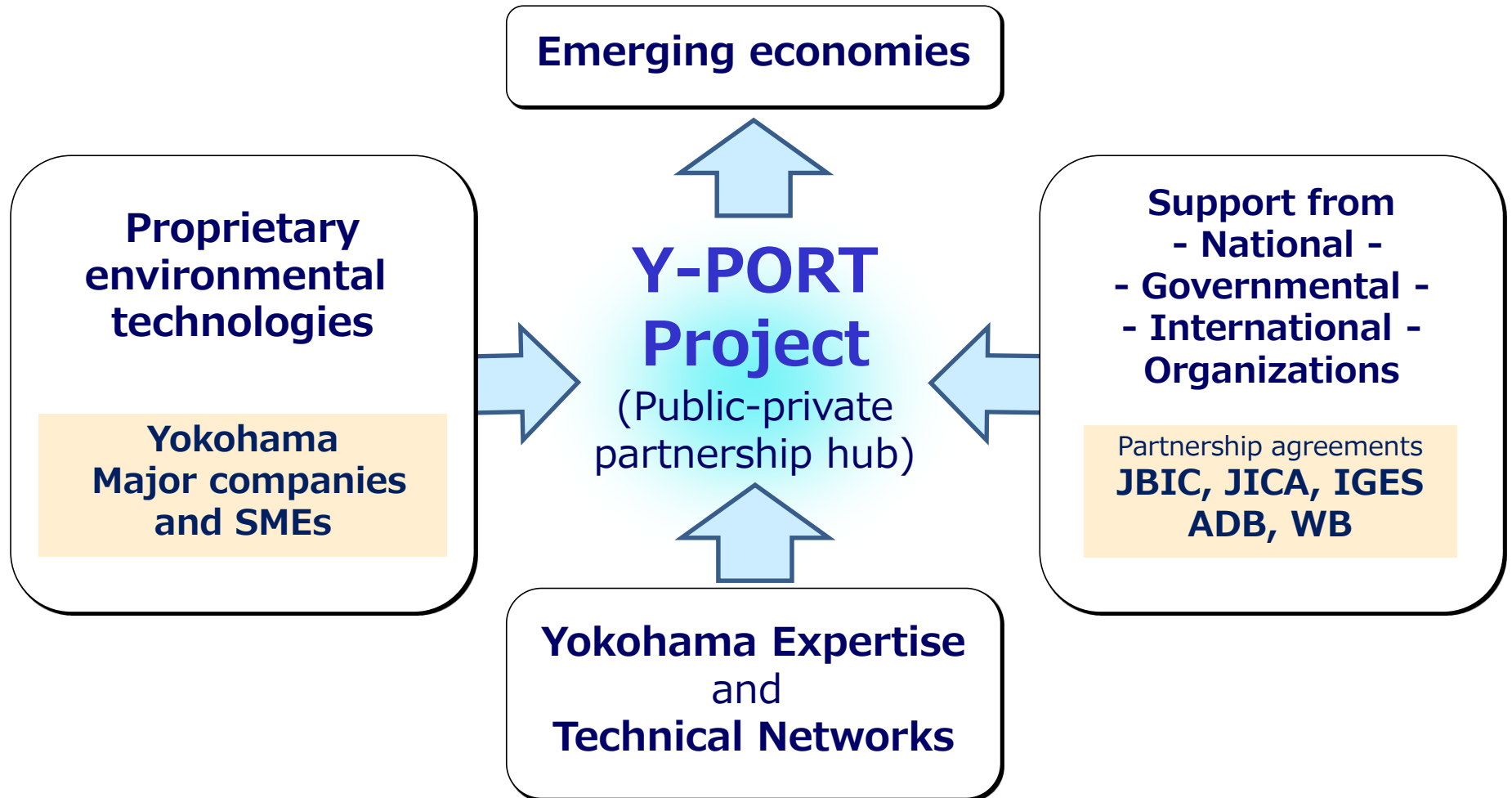
2. *City to City Collaboration*

Sharing Yokohama's Experience

- Case Study: Da Nang City, Vietnam

Y-PORT Project

Yokohama Partnership of Resources and Technologies



Yokohama's Contributions Abroad

Bangkok, Thailand

Population: 8.25 million
Area: 1,568 km²
MOU: Oct. 21, 2013

Cebu, Philippines

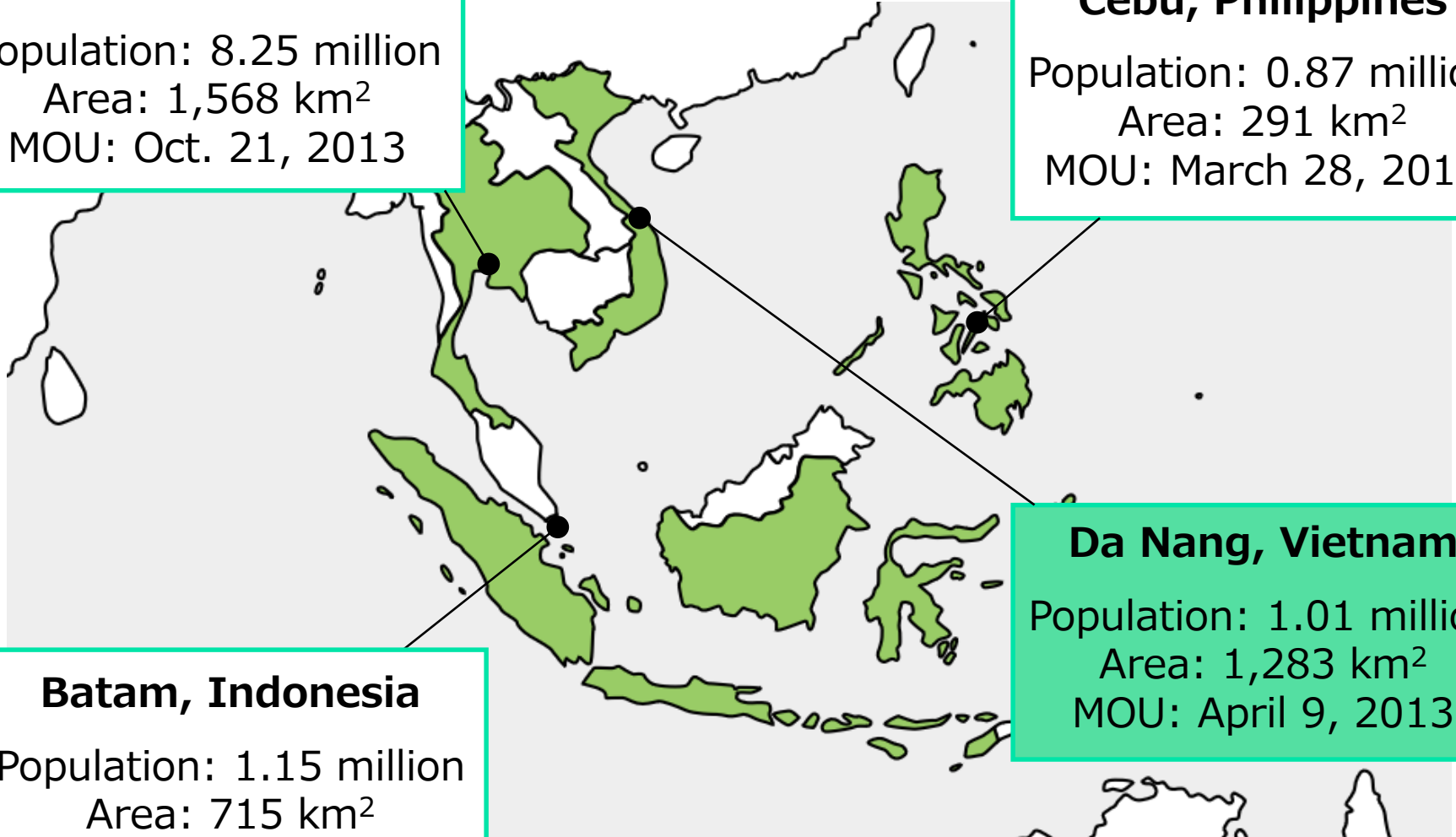
Population: 0.87 million
Area: 291 km²
MOU: March 28, 2012

Da Nang, Vietnam

Population: 1.01 million
Area: 1,283 km²
MOU: April 9, 2013

Batam, Indonesia

Population: 1.15 million
Area: 715 km²
MOU: May 26, 2015



Yokohama's Cooperation with Da Nang City

◆ 2013

Signed a **MOU on technical cooperation** for sustainable city growth



◆ 2014-

Set up the **Da Nang Urban Development Forum** with three parties: Yokohama, Da Nang and JICA

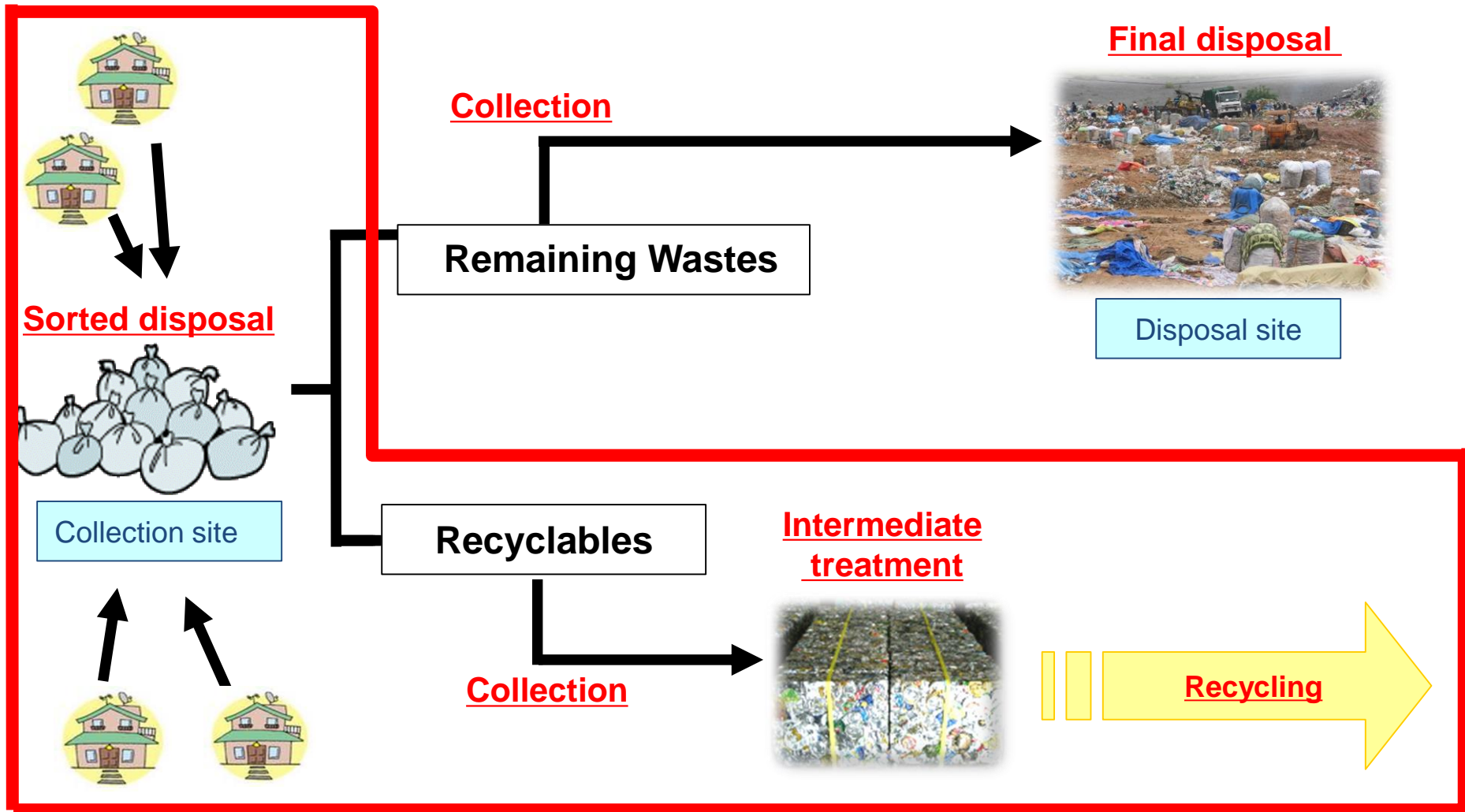
◆ 2017-2020

JICA Partnership Program

Solid Waste Management Project for Promoting Segregation and Recycling in Da Nang City



Recycling system in Da Nang City



Technologies of Yokohama's SMEs

Collection
&
Transportation



Intermediate
Processing



Productization
&
Energy Conversion



2017 Activities



Training program
in Yokohama (June)



Inspection of facilities
in Da Nang (July)

2017 Activities



Kickoff Meeting in Model Area (December)

Waste Composition Survey (December)

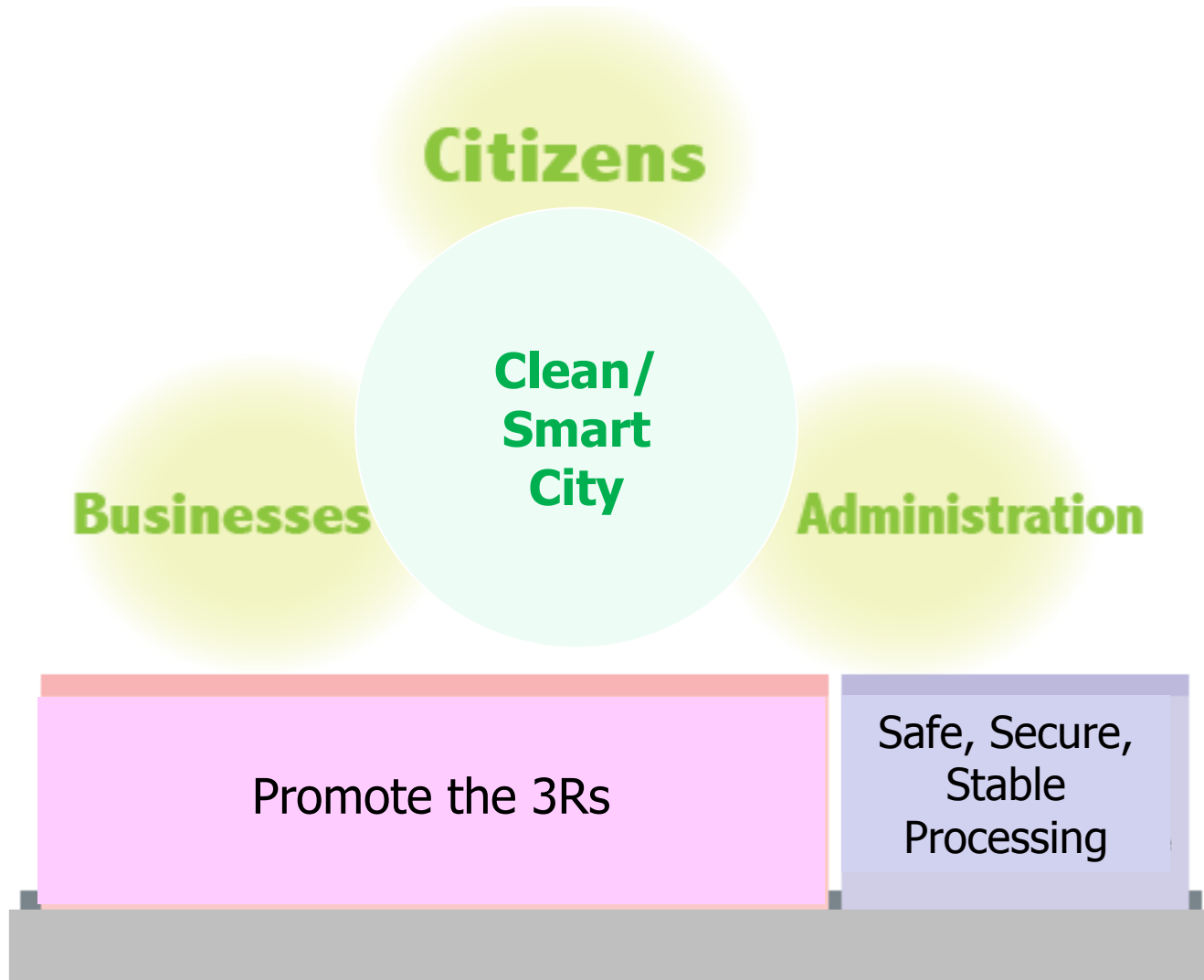


Upcoming activities in 2018-2019

- Implement the pilot project and model area evaluation surveys
- Discuss the **expansion of 3R activities into other areas**



Conclusion



Thank you for your attention.

Noriko SAITO

Executive Director

Resource and Waste Recycling Bureau

City of Yokohama



INQUIRIES:

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