

Seminar on Municipal Solid Waste Management
in Thailand - Challenges and Opportunities

Long-term Waste Management Master Plan for Local Governments



Eight-Japan Engineering Consultants Inc.

Jan 16th, 2020

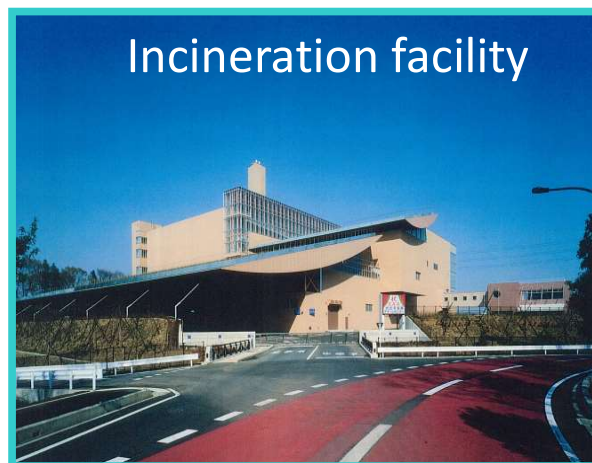
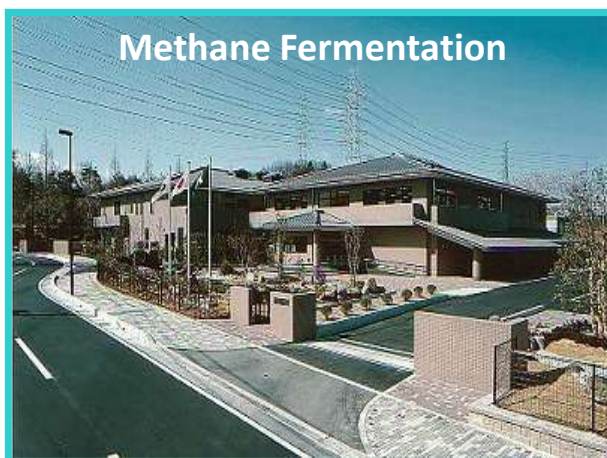
**Taisuke Odera
International Department**

- 1. Company Profile**
- 2. Procedure of MSW Facility Development in Japan & Thailand**
- 3. Contents of Waste Management Master Plan for LGs**
- 4. Conclusion**

1. Company Profile

Full Name	Eight-Japan Engineering Consultants Inc.
Foundation	Founded in 1955
Number of Employees	922 (as of July 14 th , 2019)

- ✓ 50 years of experience in the waste management
- ✓ Plan – Design – Procurement Advisory – SV for
- ✓ WTE, Sanitary Landfill, Leachate treatment facility etc.
- ✓ In last 5 years (2013-2017), total 235 contracts with USD30M sales for WTE related projects



1. Company Profile



Yame West Clean Center, Fukuoka



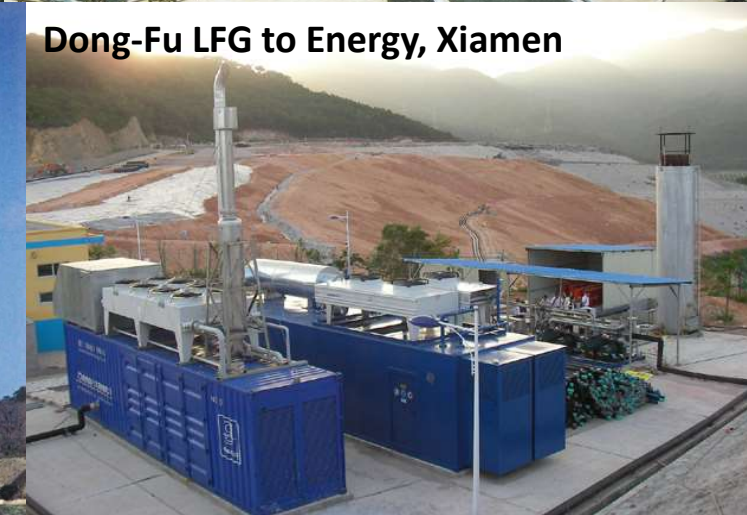
Clean Park Wakasugi, Fukuoka



Tokorozawa East Clean Center, Saitama



Eco Park Izumozaki, Niigata



Dong-Fu LFG to Energy, Xiamen



Iwate Clean Center, Iwate



M Dock SLF, Palau



Thanks Big Box, Nagano

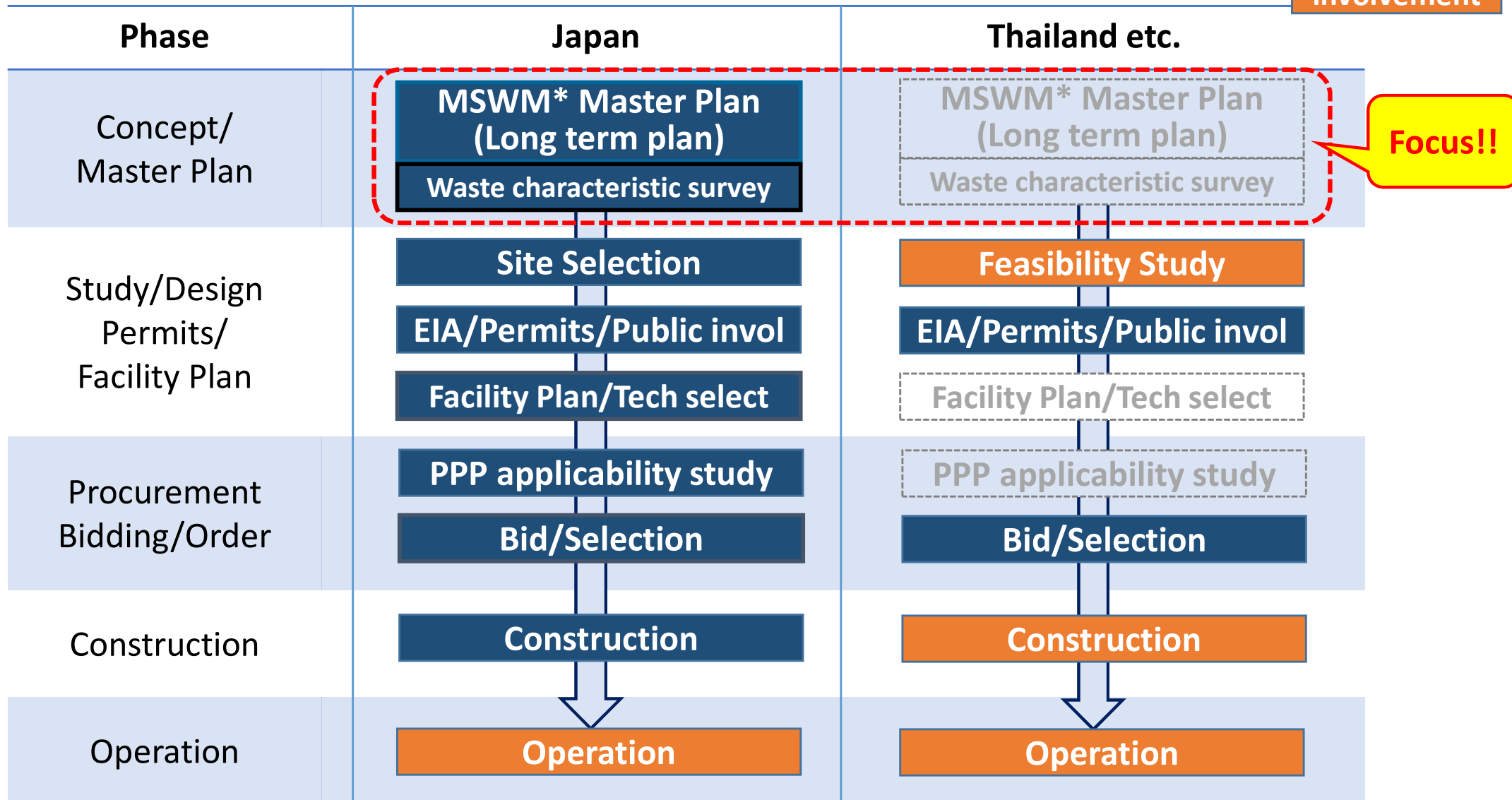


Clean Park Kinu, Ibaraki

2. Procedure of MSW Facility Development in Japan & Thailand

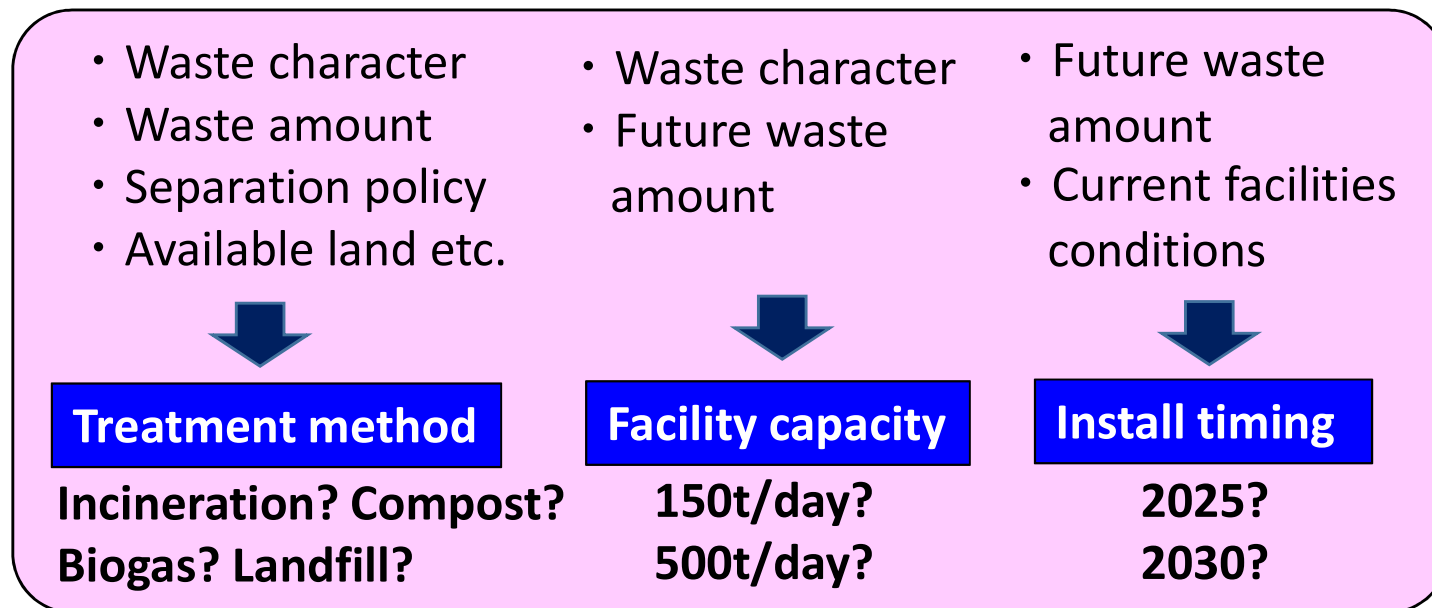
[Typical procedure for MSW facility development for Local Governments]

Private involvement



[Purpose of Long-term Waste Management Master Plan]

- To plan when, how big, and what type of treatment facilities in long-term
- To plan most suitable comprehensive waste management system for the LG
(not limited to WtE (Incineration), including other treatment method)



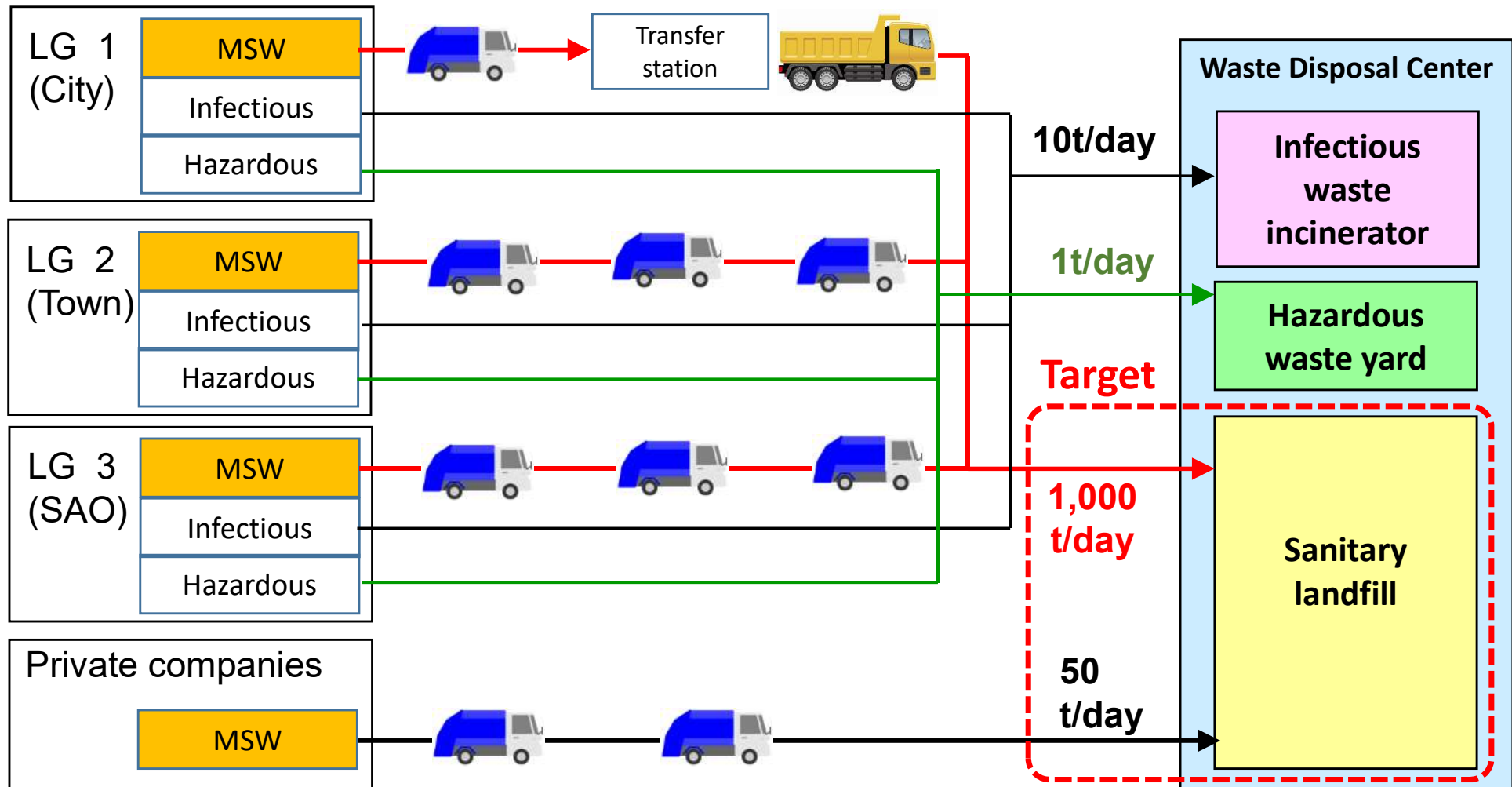
Benefits of M/P for LGs

- Planned development with continuity
- Planned budgeting
- Planned preparation for LG, Investor, Supplier
- Benchmark for proposal evaluation & decision making

Possible for long-term development planning of multiple facilities

For Treatment method

(1) Summarization of current waste management flow



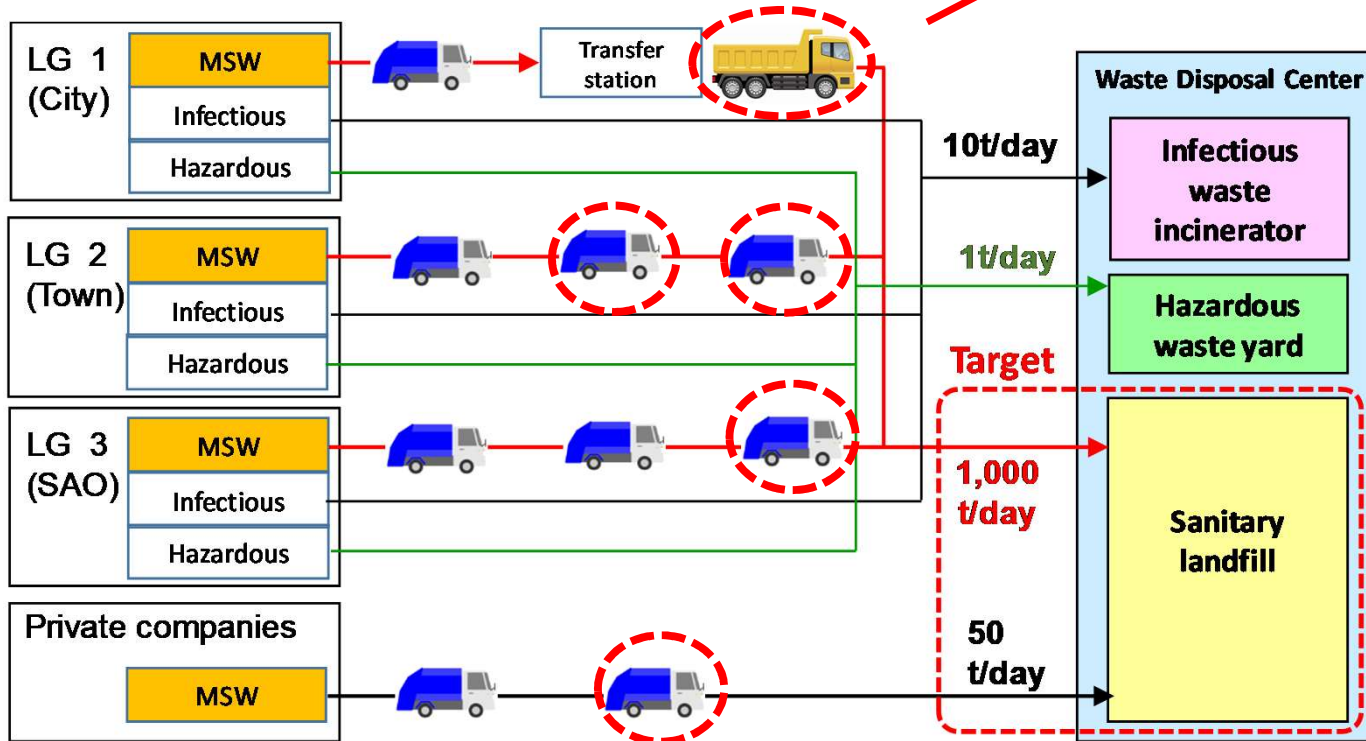
For Treatment method

(2) Planning of waste characteristic survey

- Selection of sampling target area
- Selection of sampling target truck
- Decision of sampling number

Ex)

From City		xx samples
From Town		xx samples
From SAO		xx samples
From Private		xx samples

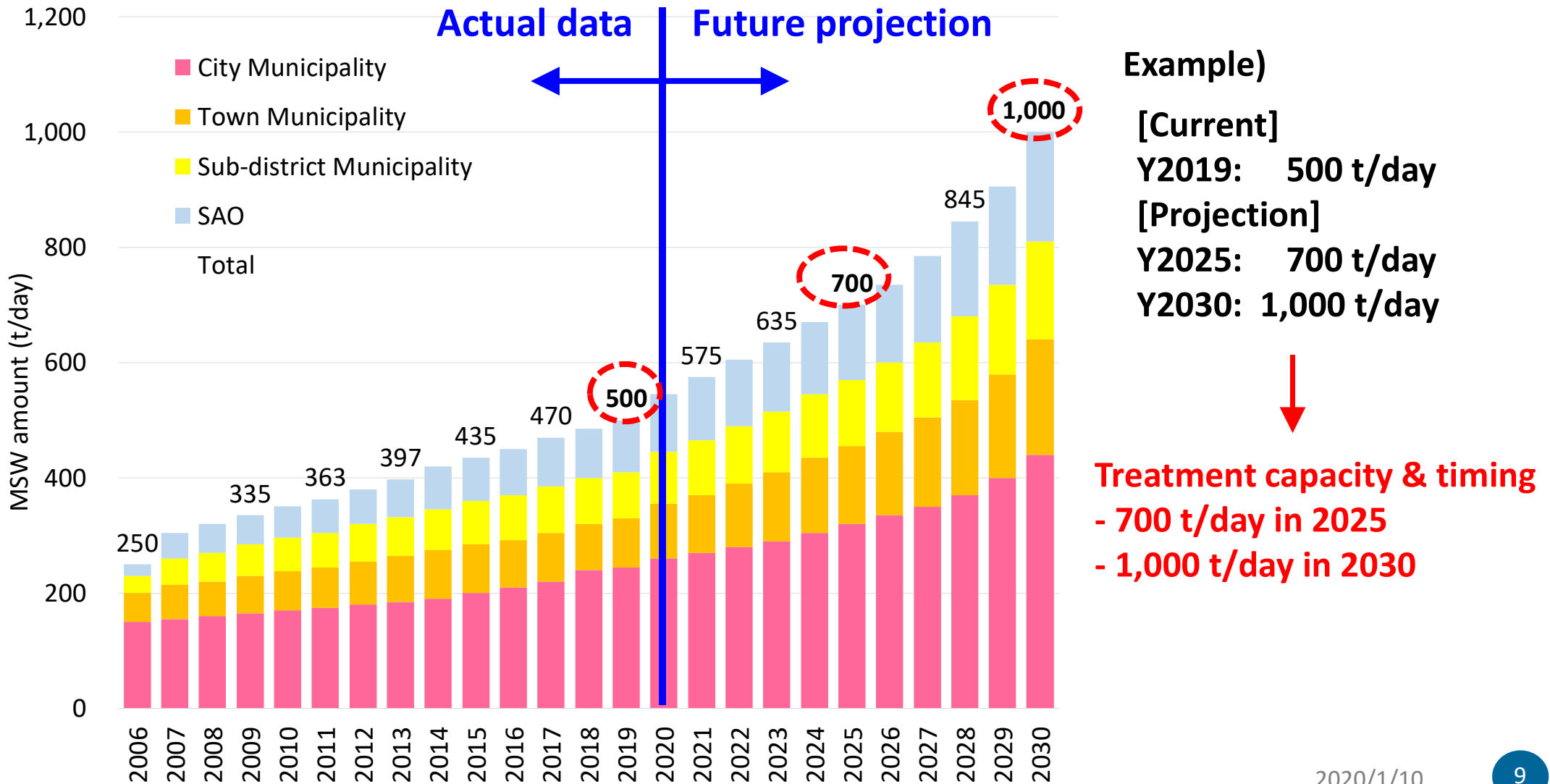


Character of the LG's waste

Selection of suitable treatment method (WtE?, Biogas?, Composting?, Landfill?)

For Capacity & timing of installation

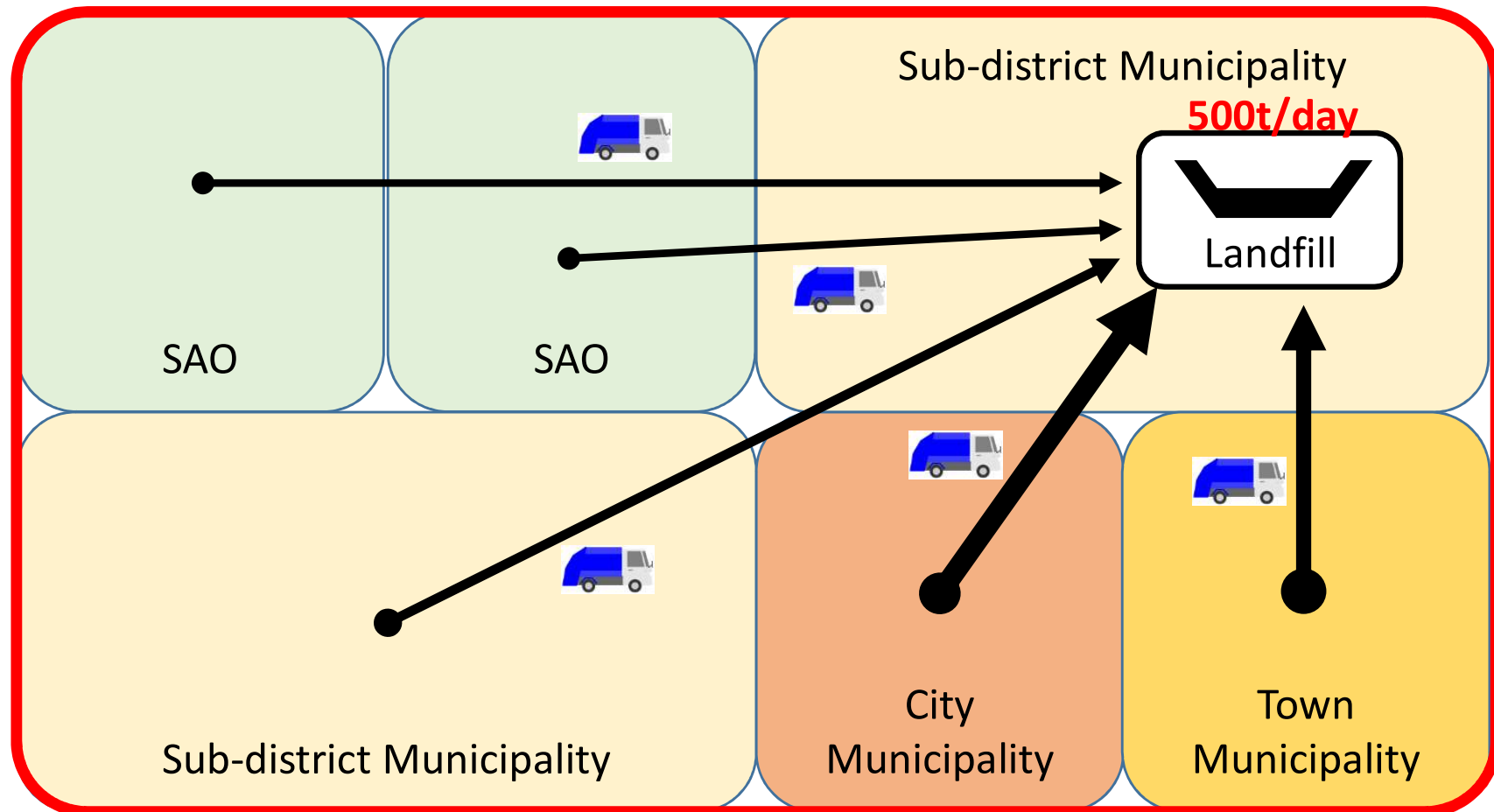
(1) Historical data collection & future projection of waste amount



[Image of Long-term facility development plan]

Y2019: 500t/day (Current)

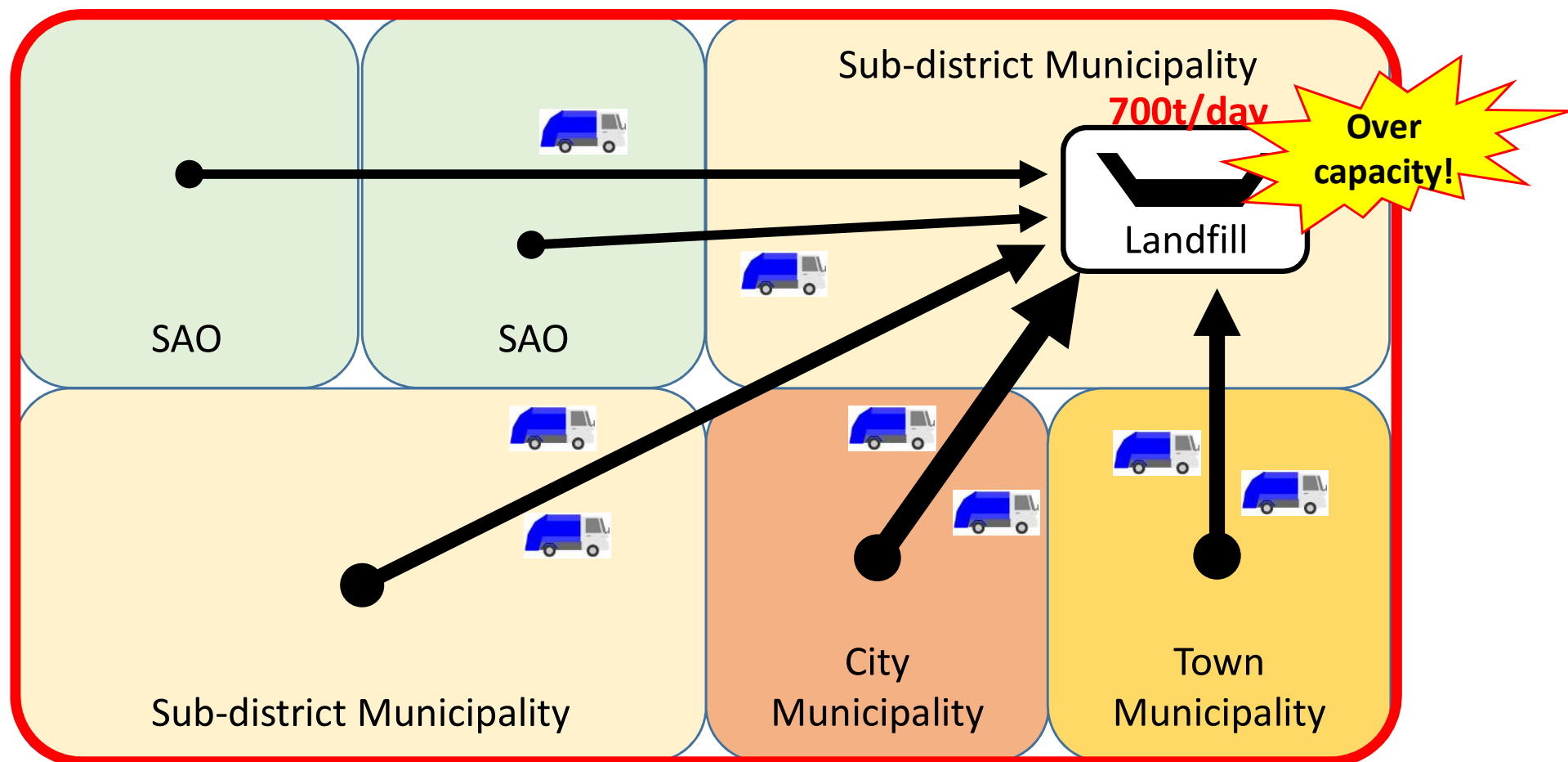
Cluster



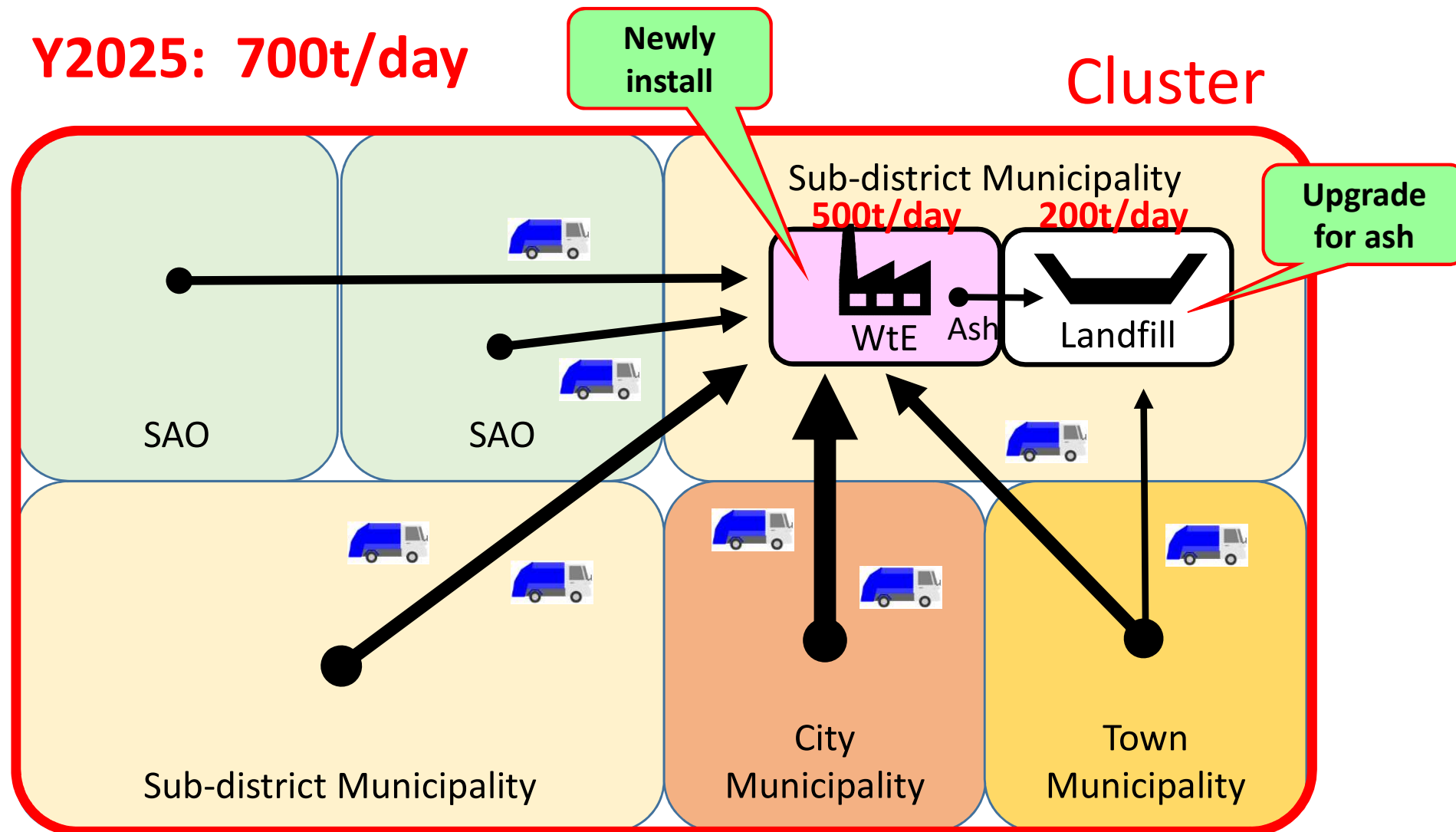
[Image of Long-term facility development plan]

Y2025: 700t/day

Cluster



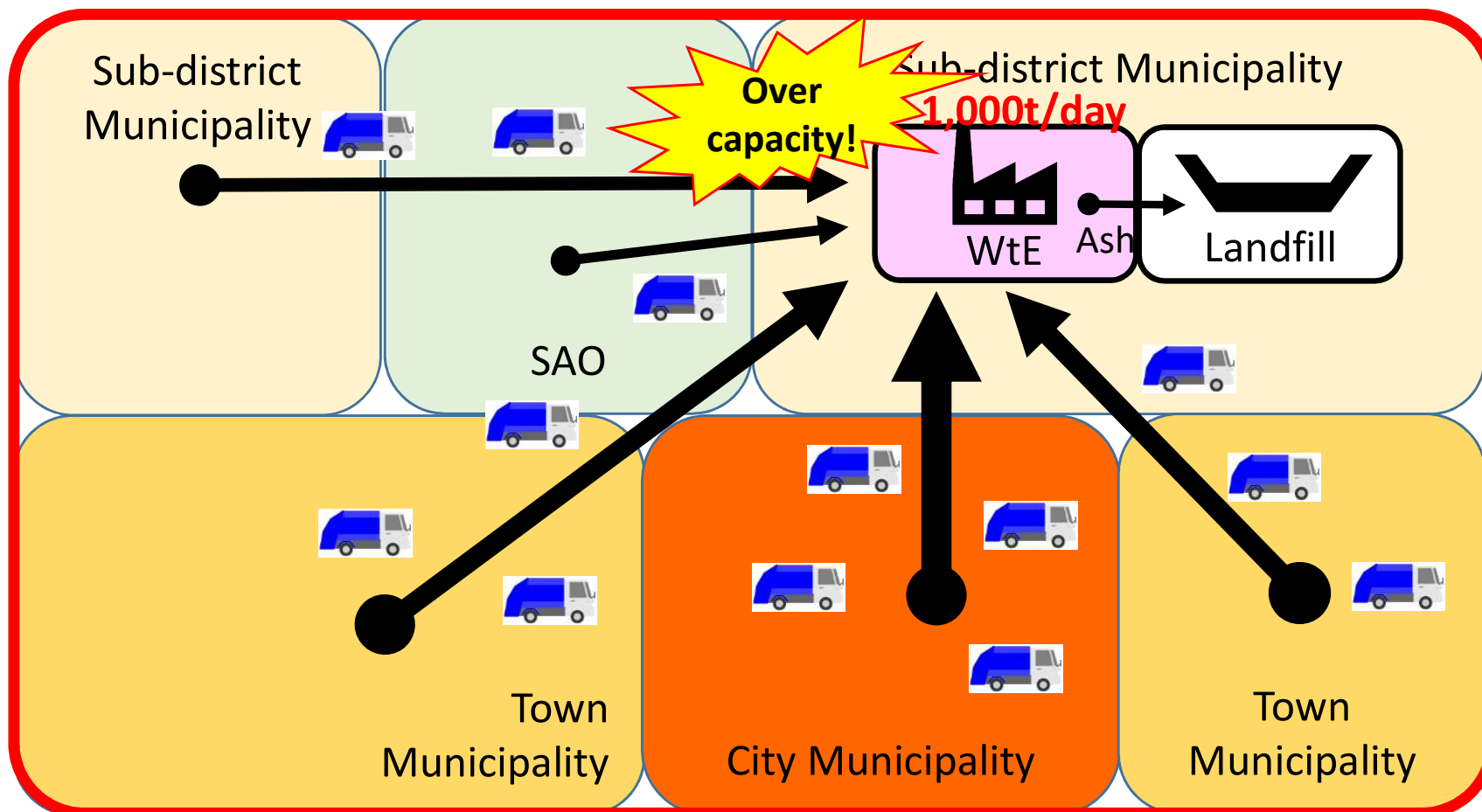
[Image of Long-term facility development plan]



[Image of Long-term facility development plan]

Y2030: 1,000t/day

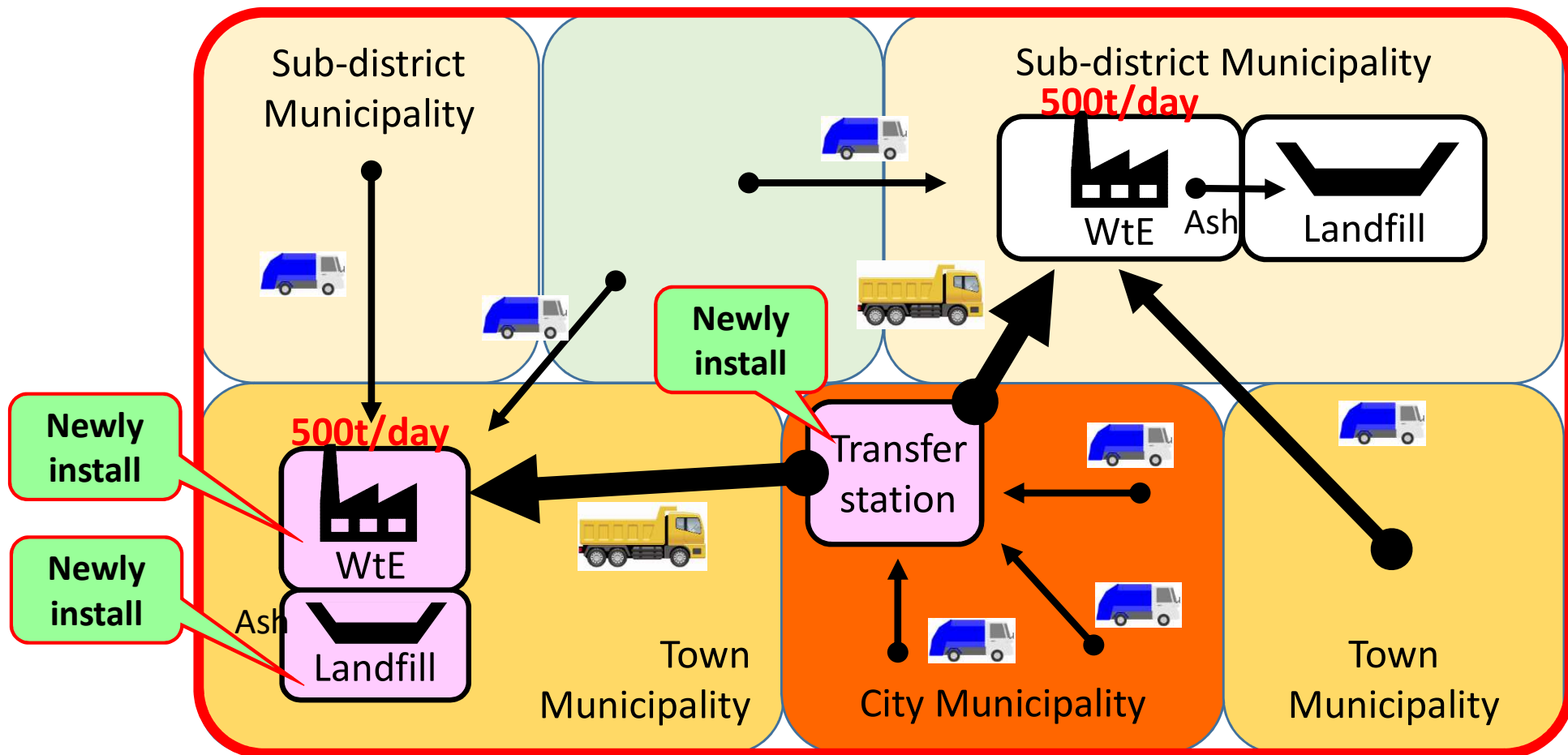
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[Image of Long-term facility development plan]

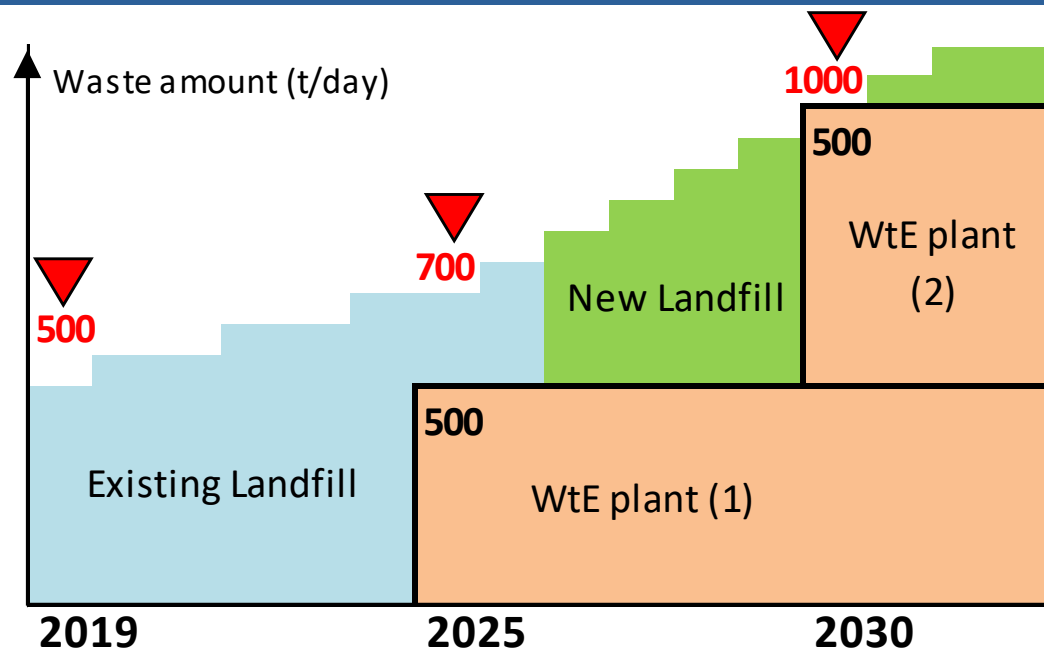
Y2030: 1,000t/day

Cluster



3. Contents of Waste Management Master Plan for LGs

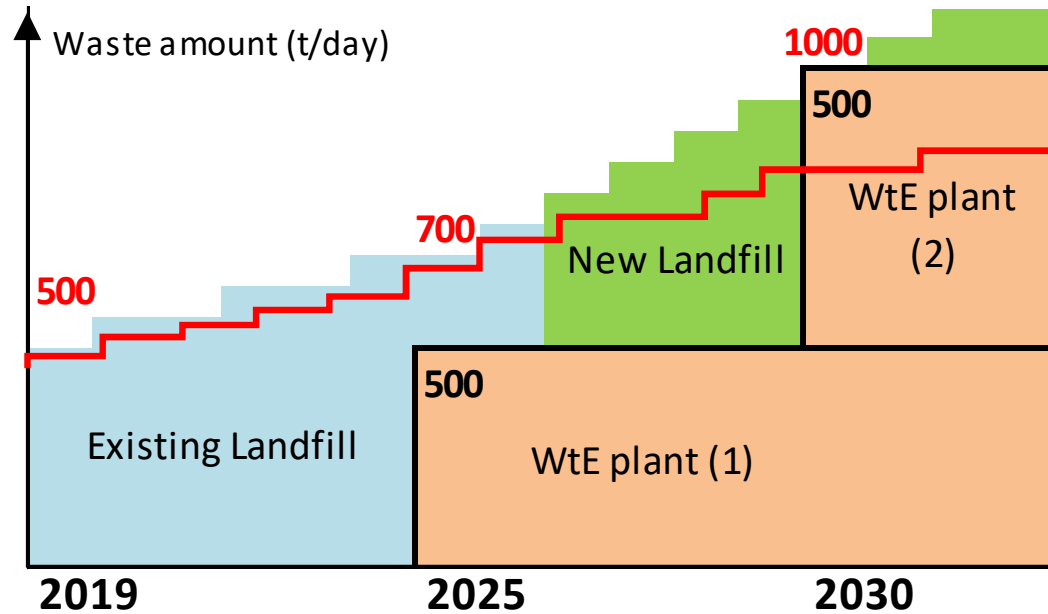
[Image of Long-term facility development schedule]



Landfill	Existing	Current landfill use				Full				
	New					↔ Design				
WtE plant	1st plant 500t/day		↔ Study							
			↔ Tender/Gov Approval			↔ Construction				
	2nd plant 500t/day									
						↔ Study				
						↔ Tender/Gov Approval				
							↔ Construction			
										WtE 2nd ope

3. Contents of Waste Management Master Plan for LGs

[Image of Long-term facility development schedule]

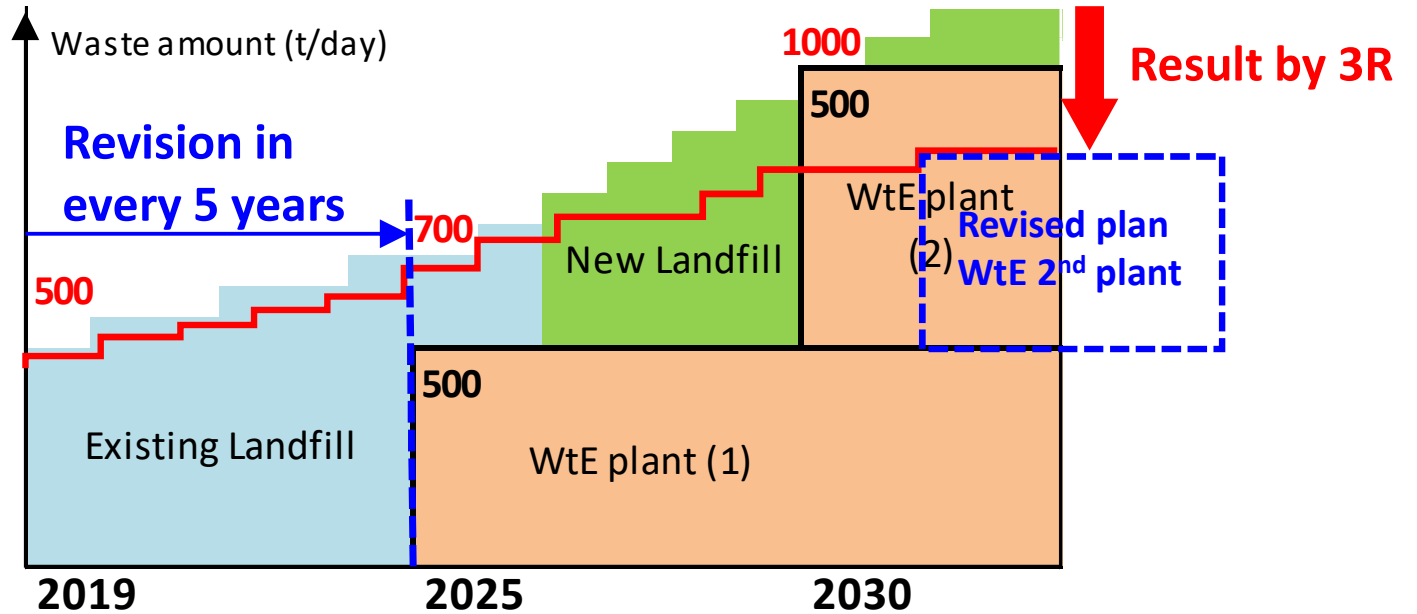


Result by 3R
(Implementation of separation plan)
 Ex) "15% reduce"

Landfill	Existing	Current landfill use												Full			
	New													↔ Design			
WtE plant	1st plant 500t/day													↔ Construction			
	2nd plant 500t/day																
3R action		→															

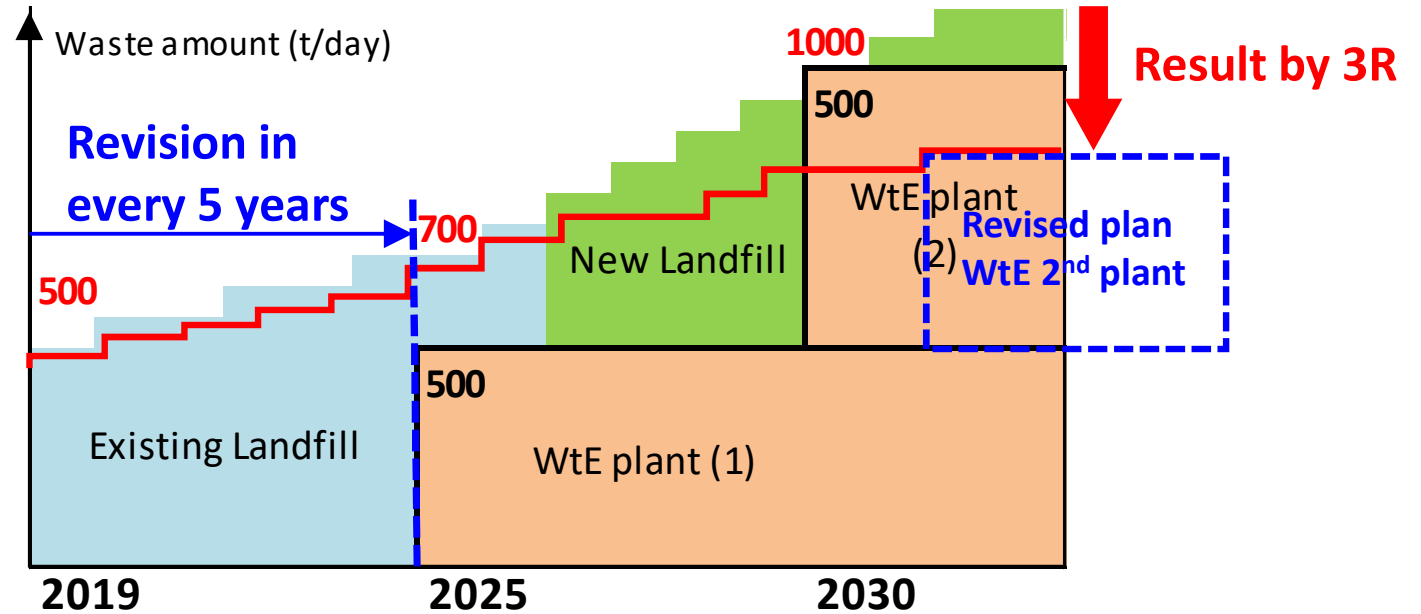
3. Contents of Waste Management Master Plan for LGs

[Image of Long-term facility development schedule]



Landfill	Existing	Current landfill use		Full					
	New				↔ Design				
					↔ Construction				
					New landfill operation				
WtE plant	1st plant 500t/day	↔ Study							
		↔ Tender/Gov Approval			↔ Construction				
					WtE 1st plant operation				
	2nd plant 500t/day								
						↔ Study			
						↔ Tender/Gov Approval			
						↔ Construction			
						WtE 2nd ope			
3R action		→							

[Image of Long-term facility development schedule]



Landfill	Existing	Current landfill use																
	New																	
WtE plant	1st plant 500t/day																	
	2st plant 500t/day																	
3R action		→																

- Planned budgeting
- Planned preparation for LG, Investor, Supplier

[Example of Master Plan]

Yokohama city MSW Master Plan
(Period: 2002 to 2010)

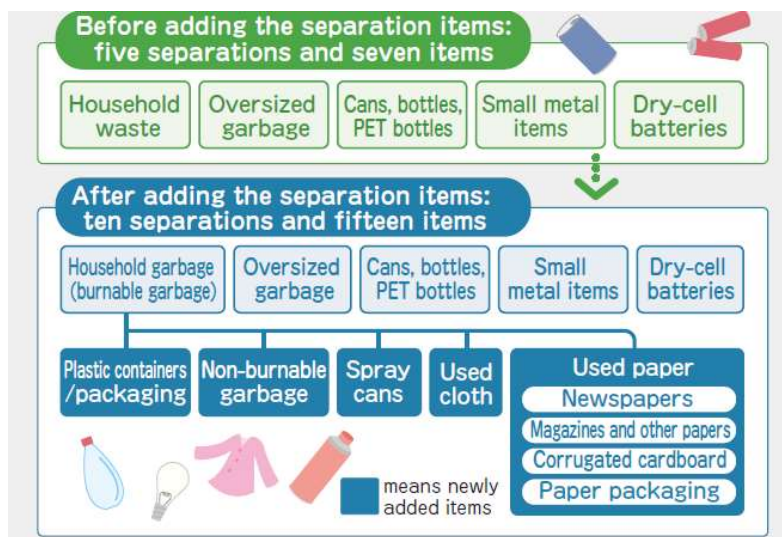
[Waste reduction target]

Great results of the reduction of the amount of garbage

We managed to **reduce the amount of garbage by 30%** in FY 2005, five years prior to the target of the G30 Plan

We **reduced the amount of garbage by 42.2%** in FY 2009.

[Separation plan]



[Implementation for achieve of the Plan]

Publicity and explanation to Citizens

- Separation briefing session : **About 11,000 times**
- Educational campaign in front of train stations : **About 600 times**
- Early morning education in collection point : **About 3,300 times** (FY2004 & 2005)
- Garbage left behind due to non-separation : **About 10,900 times/day** (FY2009)



Separation briefing



Early morning instruction

[Following New Plan]

Yokohama city MSW Master Plan (Period: 2010 to 2025)

Beyond the G30 Plan
Yokohama 3R Dream!
Outline version
Yokohama Municipal Solid Waste Management Master Plan

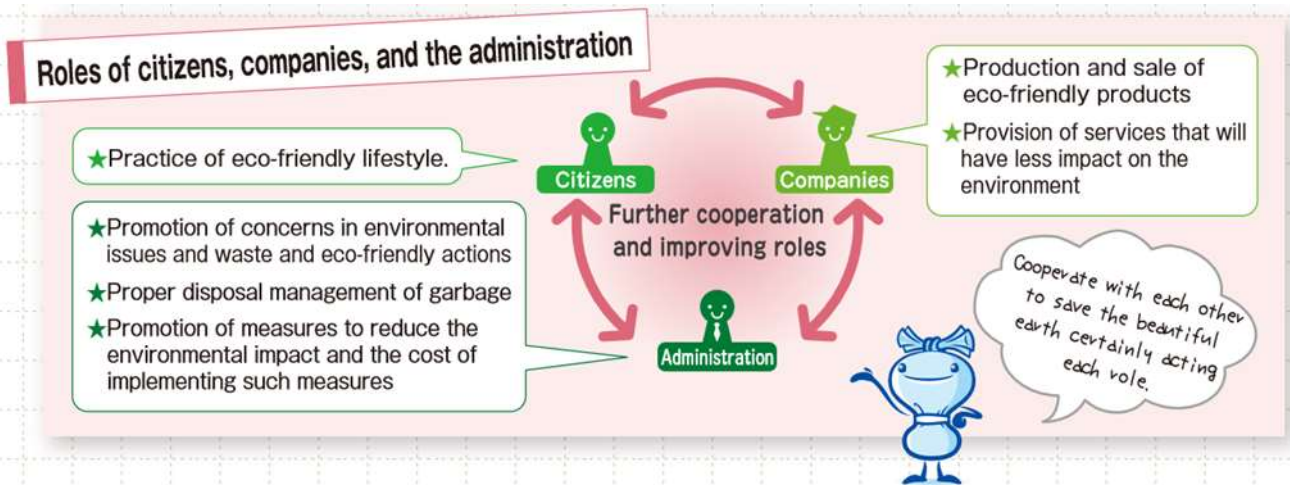
A new plan following the G30 Plan

The City of Yokohama formulated the "Yokohama 3R Dream Plan" based on the "Yokohama G30 Plan." Although the G30 Plan promotes separation of garbage and recyclables and recycling, this plan aims to reduce garbage (waste generation control) and its impact on the environment, and ensure the environment's richness for posterity. We will endeavor to establish a society comprising of citizens and companies where children have dreams for the future.

2011.01

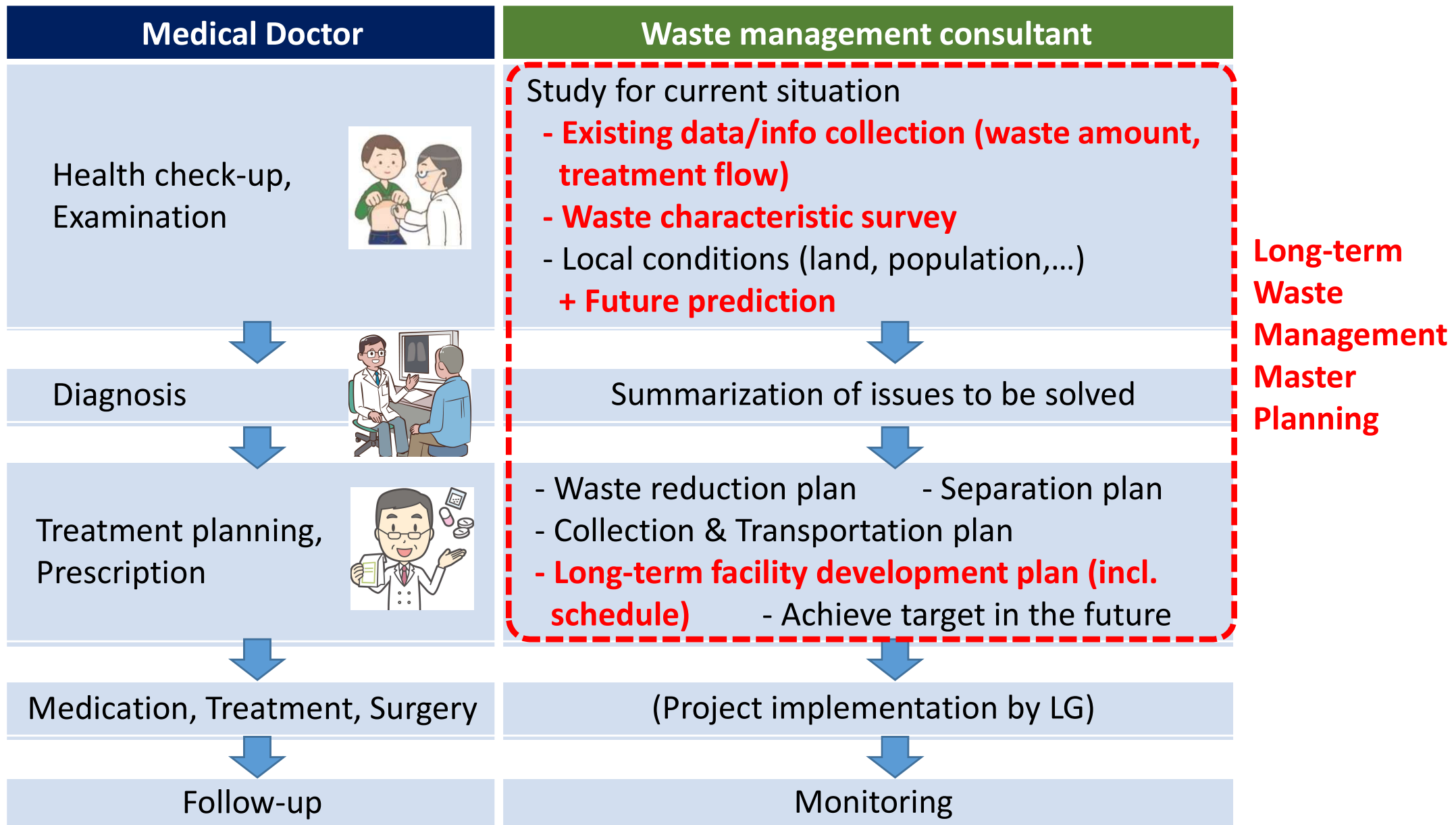
Waste reduction & GHG reduction Target plan

1	Further challenge for 3R	Reduce Reuse Recycling
<p>We will reduce total generation of garbage (total amount of garbage and recyclables) by more than 10% by FY 2025 (as compared to the generation for FY 2009).</p> <p style="border: 1px dashed black; padding: 5px;">We will reduce garbage by more than 3% of total generation by FY 2013.</p>		
2	Reducing garbage to deal with global warming	
<p>We will reduce GHG emissions from garbage processing by more than 50% by FY 2025 (as compared to the emissions for FY 2009).</p> <p style="border: 1px dashed black; padding: 5px;">We will reduce GHG emissions by more than 10% by FY 2013.</p>		



<https://www.city.yokohama.lg.jp/city-info/yokohamashi/org/shigen/sonota/hoshin/3r-plan/plan.html>

4. Conclusion



Long-term
Waste
Management
Master
Planning



EJEC

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