



Recommendations for Policy

- Secure Income for Waste Management = Reasonable Price for Tipping Fee and Feed in Tariff
- Promote 3R (Reduce, Reuse, Recycle)
- Develop Emission Guideline
- Promote Public Education



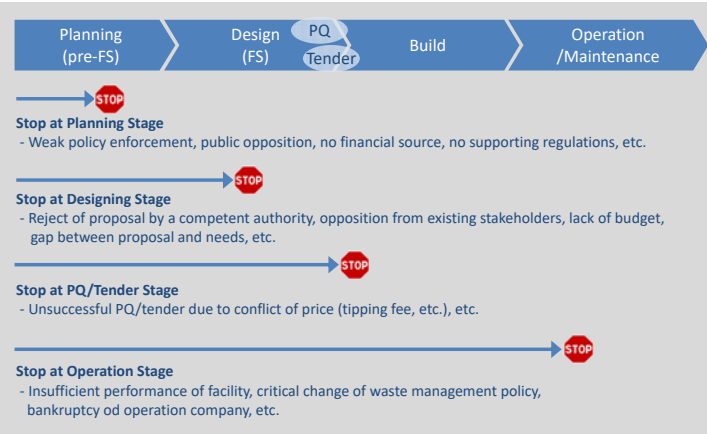
Challenges for PPP Project Realization

- Creating Data System (Collection, Storage, Analysis)
- Making Master Plan
- Managing Waste Pickers
- Creating Proper Power Purchase Agreement Mechanism
- Introducing Pragmatic "Feed in Tariff"
- Guaranteeing Active Government Participation
- Securing Project Site with Proper Soil Analysis and Landfill for Ash
- Building Finance Scheme

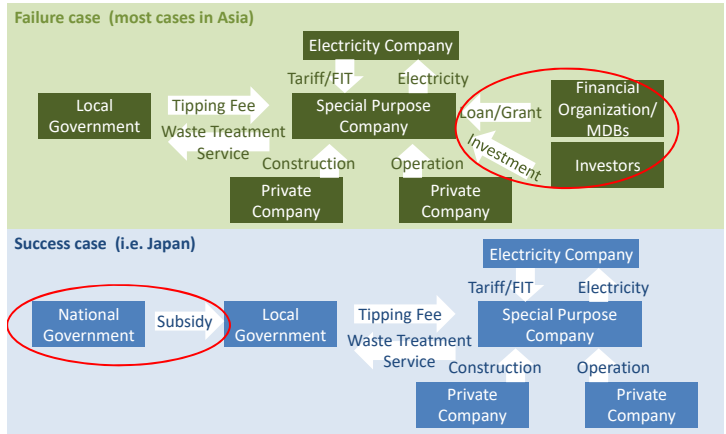
These challenges need be overcome to realize the project.



Why WTE fail in many countries ?



Financing of WTE in PPP Scheme



Financial Sources for WTE (Yokohama Case)

Name of WTE	Total Construction Cost	Central Government	Prefectural Government	City Bond	City Budget
	Mil. JPY (%)	Mil. JPY (%)	Mil. JPY (%)	Mil. JPY (%)	Mil. JPY (%)
TSUZUKI (1,200tpd, 12MW)	28,683 (100.0)	8,044 (28.0)	0 (0.0)	16,428 (57.3)	4,211 (14.7)
TSURUMI (1,200tpd, 22MW)	51,778 (100.0)	12,450 (24.0)	0 (0.0)	27,532 (53.2)	11,797 (22.8)
ASAHI (540tpd, 9MW)	27,289 (100.0)	4,633 (17.0)	96 (0.4)	13,911 (51.0)	8,649 (31.6)
KANAZAWA (1,200tpd, 35MW)	62,594 (100.0)	11,030 (17.6)	47 (0.1)	43,344 (69.2)	8,173 (13.1)



Major Risks and Problems on WTE Project

Item	Risk/Problem	Impact/Remarks
1 Waste Volume	No guarantee for Waste Volume (insufficient volume)	Tipping fee will be increased
2 Feed in tariff (PPA: Power Purchase Agreement)	PPA is responsible for the bidder	Project is not financially feasible
3 Tipping Fee	Lower tipping fee	Project is not financially feasible
4 Sovereign Guarantee	No Guarantee from central government providing government guarantees for infrastructure Public-Private Partnership (PPP) projects.	Negative influence on project finance

Guarantees and financial condition for a project are the most important



Risk Allocation of PPP scheme

Optimization of Risk Allocation between Public and Private for Minimization of Total Project Life-Cycle Cost

	City A in Asia		City B Japan (Typical)		City C Japan (Biogas)	
Business Scheme	PPP (BOT)		Public Work (EPC)		PPP (BTO)	
-Finance	Private		Local Gov. + state subsidy		Private	
-O & M	By Private		By Public with outsourcing		By Private	
Risk Allocation	Public	Private	Public	Private	Public	Private
-Waste Quantity		Failed	✓		✓	
-Waste Quality		✓	✓		✓	
-PPA(Rate & Tenure)		✓	✓		✓	
-Survey & Soil Condition		✓	✓		✓	
-Ash Disposal		✓	✓		✓	
-Plant Performance		✓		✓		✓
-Durability & Availability		✓	✓			✓
-O&M Cost		✓	✓			✓
-Law & Regulation	✓		✓		✓	
-Escalation (CPI)	✓		✓		✓	
-Plant Shutdown		✓	✓		Landfill	✓