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- 28 incineration-based waste-to-energy plants across China.
- 38 biomass plants across China, including 5 food waste treatment facilities.
- 300,000 tons of hazardous waste processed annually.
- 8 sludge treatment centers across China.



欣环卫  
Mizuda Waste Management



美欣达·欣环卫

“一体化”体系建设与运营

**Project:** Integrated Urban-Rural Waste Management

Expansion in Wuxing District, Huzhou, China

**Institutions Involved:** Mizuda Group Co.,Ltd & Wuxing

District Bureau Of Housing And Urban-Rural

Development

**Project Description:**

- 1.) 30yr PPP between the two institutions involved
- 2.) Expansion of incineration-based waste-to-energy infrastructure (Increasing capacity from 1500tons/day-2250tons/day)
- 3.) Establishment of a new integrated urban-rural MSW collection system



# Institutional Setting



- Scope of project:
  - 7 townships within Wuxing District
  - Population of over 1million
  - Steadily growing 2000tons of daily MSW production



## Resident Demand

- Increasing expectations for environmental restoration
- 10% population increase over past 5 years



- Legal Framework:
  - Legal obligation by municipalities to form PPP's to address WM



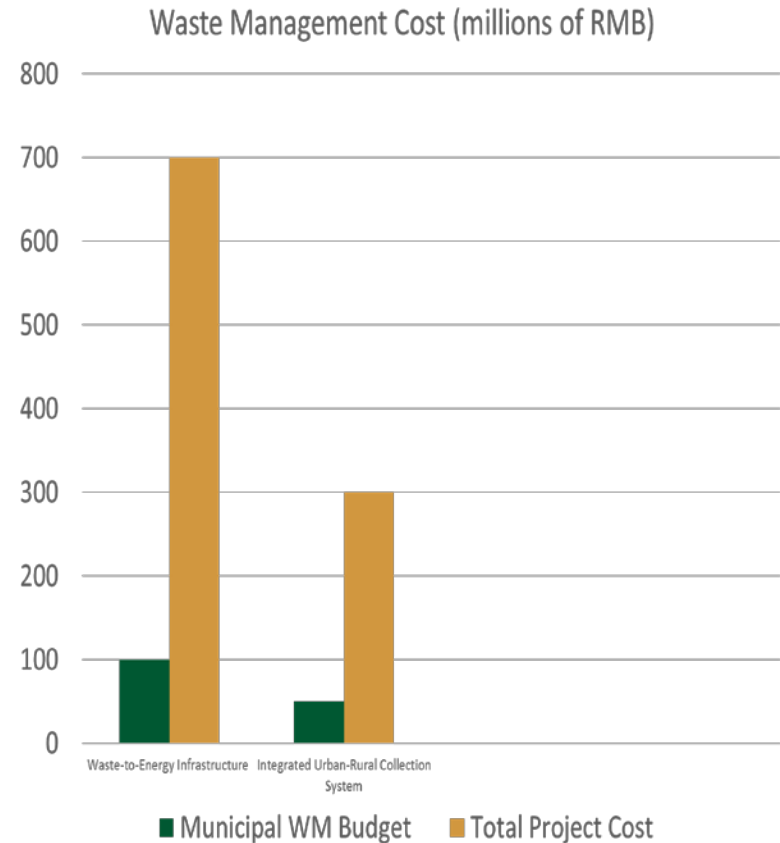
- Local Government Major Considerations
  - Expand and improve waste management programs without exceeding the budget
  - Maximize economic output from available land & minimize landfill expansion
  - Ensure sustainable long-term funding for desired WM programs



- Mizuda Considerations
  - Expand environmental friendly sector of the company
  - Increase profitability of waste management operations

# Starting Point: Major Challenge

- Insufficient municipal funding for expanding incineration-based waste-to-energy infrastructure and establishing new MSW collection and sorting centers into an integrated urban-rural system.



# Approach: Resolving Challenges

- Establishment of an exclusive 30yr PPP ensuring 72% private funding for current and future waste management projects & the creation of an single-vendor, integrated urban-rural MSW collection and sorting system. Wuxing District Bureau Of Housing And Urban-Rural Development, in return, is providing Mizuda with the following financial incentives :
  - 0.15RMB/KW subsidy on all energy produced by Mizuda's incineration-based waste-to-energy plants for the project
  - VAT exemption for the duration of the partnership
  - 3 year income tax exemption
  - Subsequent 3 year 50% income tax exemption

# Outputs: PPP Results

- Funded Commitment for the following deliverables:
  - Renovation of long-standing Mizuda owned & operated incineration-based waste-to-energy plant currently servicing the district.
    - Capacity of 1500 tons of MSW per day.
    - 340kw of energy produced per ton of MSW processed.
  - The construction and operation of a new incineration-based waste-to-energy plant to service the district and process a current and growing surplus of MSW of 500 tons per day.
    - Capacity of 750 tons of MSW per day.
    - Approximately 500kw of energy produced per ton of MSW processed.
  - Rebuild the district's current MSW collection system into a higher capacity integrated system including upgraded recycling systems.
- Significant expected conservation of usable municipal land

# Lessons Learned

- Waste management solutions that both service MSW problems and also create additional value, such as energy, can provide financial incentives for innovative private enterprises to engage in PPP's.
- Long-term PPP agreements reduce the risk for municipalities in sustaining financial backing for new waste management initiatives and can allow for more comprehensive solutions to waste management challenges.
- Exclusive PPP's can provide the singular oversight necessary to address the common problems of unintegrated MSW collection and sorting systems.

# Follow-up: Open Questions

- What are some effective financial incentives to encourage participating municipal residents to assist in properly sorting MSW prior to collection?
  - How is technology being used to address this question?