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Sludge Treatment under China's Low Carbon Development: Challenges and Recommendations

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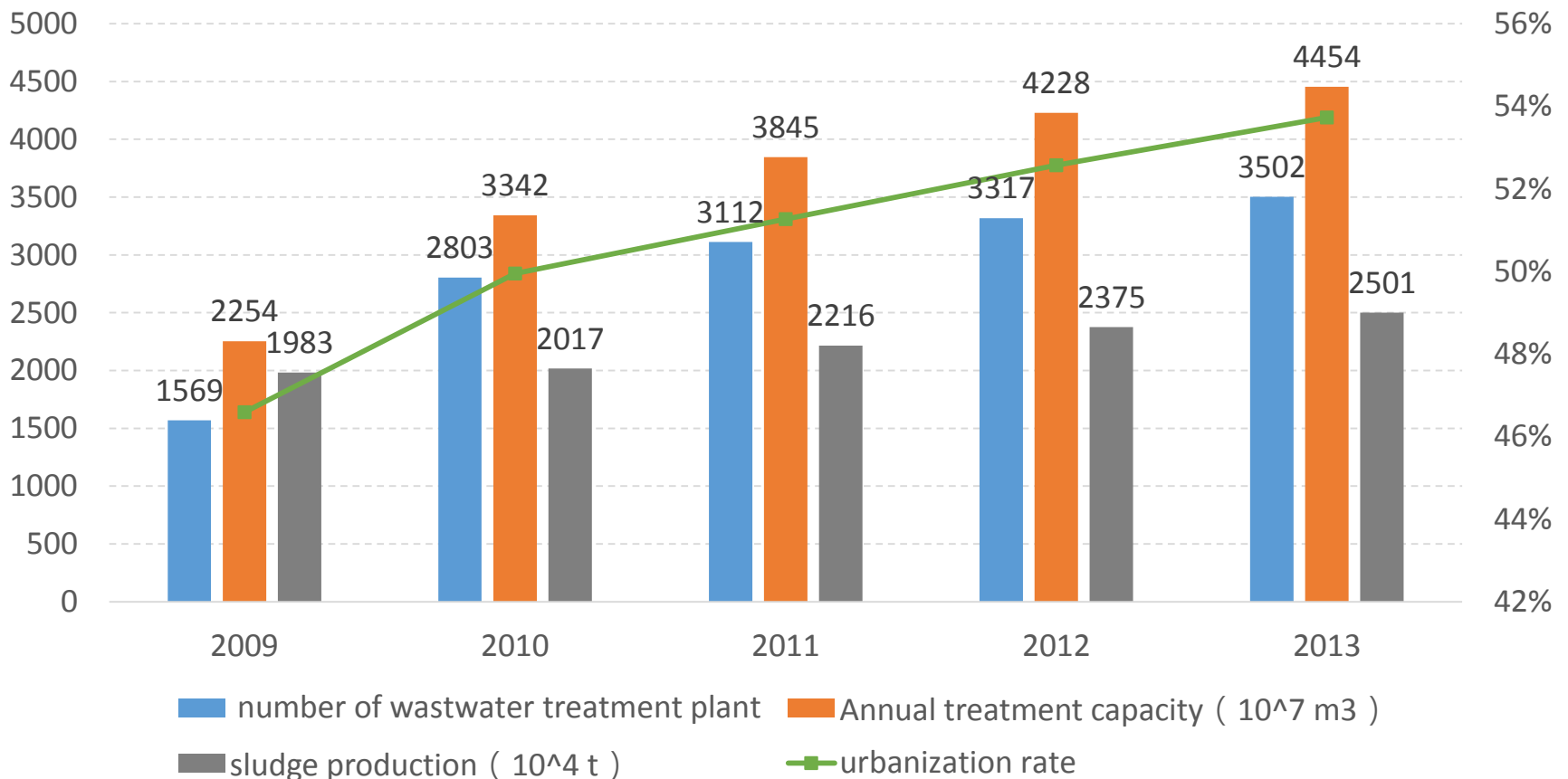
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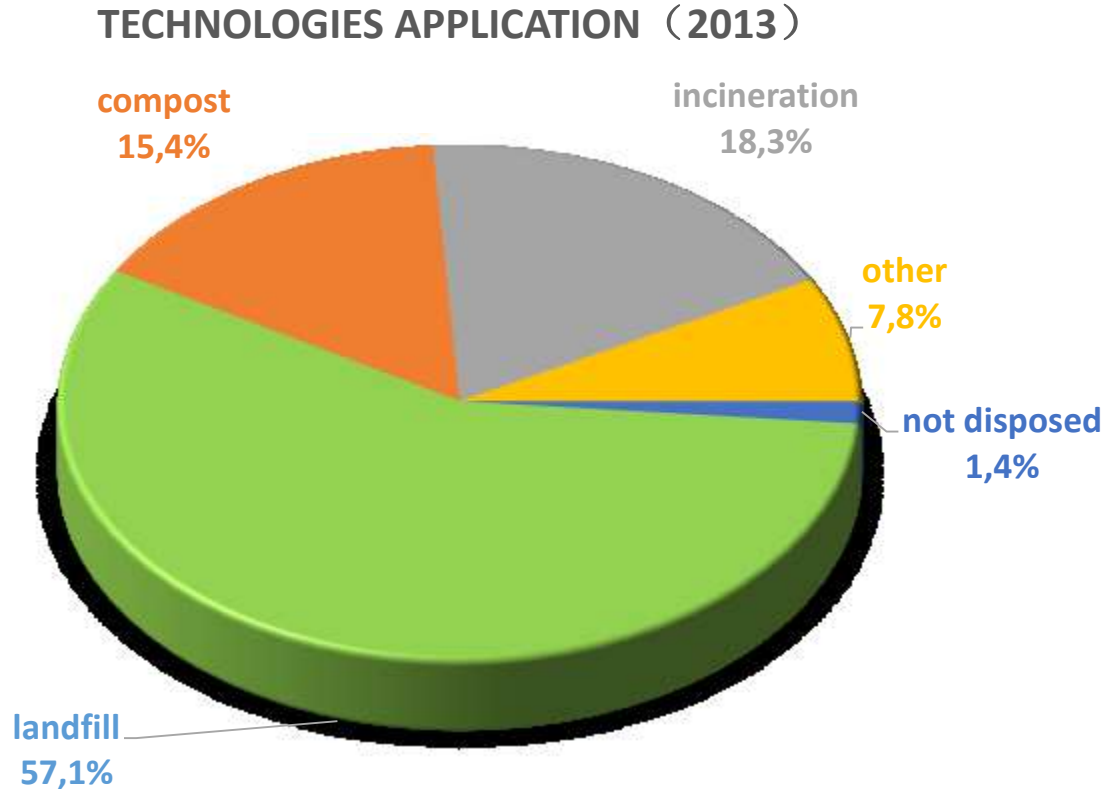
Status Quo Overview

❖ With rapid urbanization, sludge production is increasing



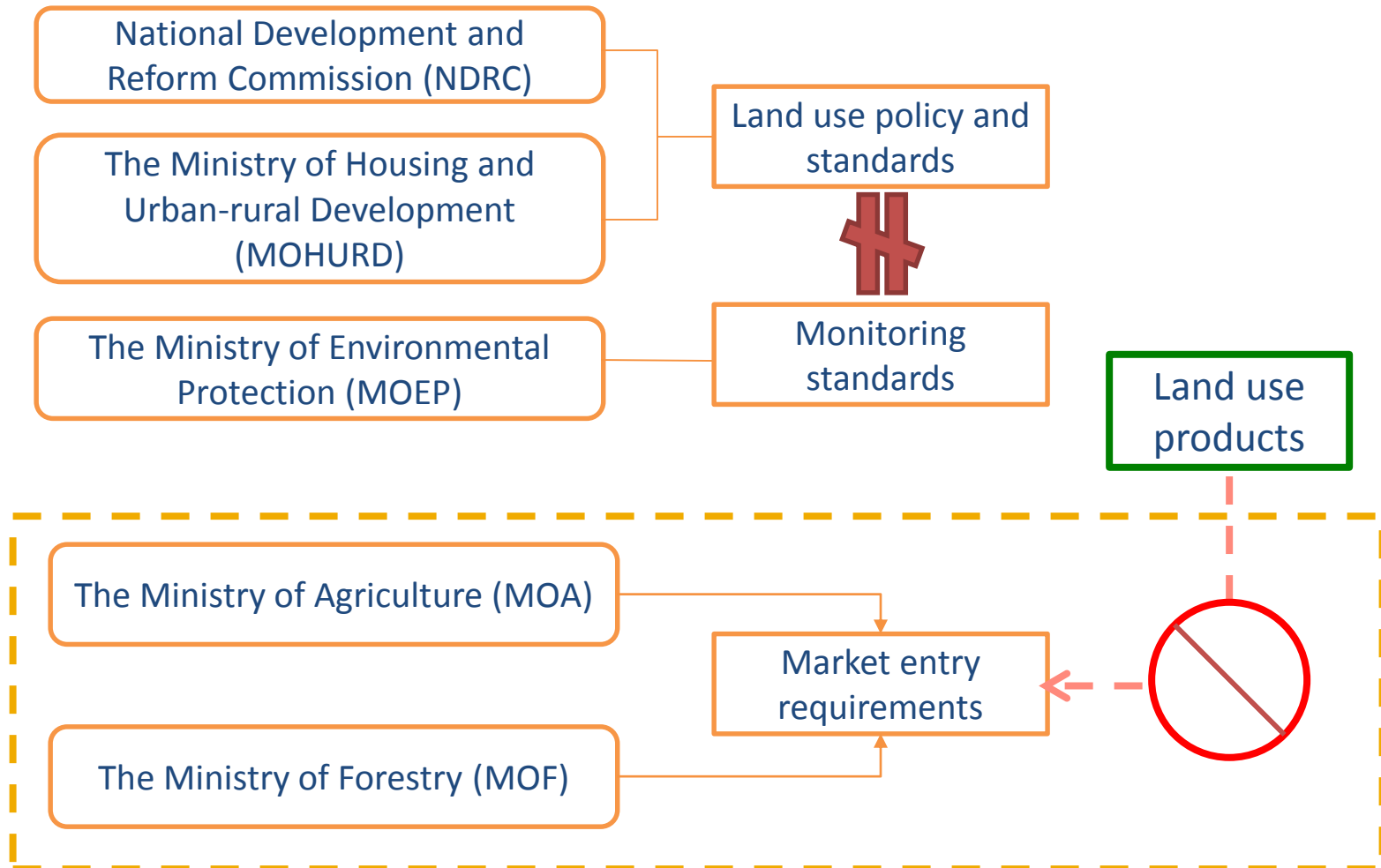
Status Quo Overview

- ❖ Huge amount of sludge hasn't been safely treated, as a result, secondary pollution occurred
- ❖ Far away from 2015 target: 70% safely treated



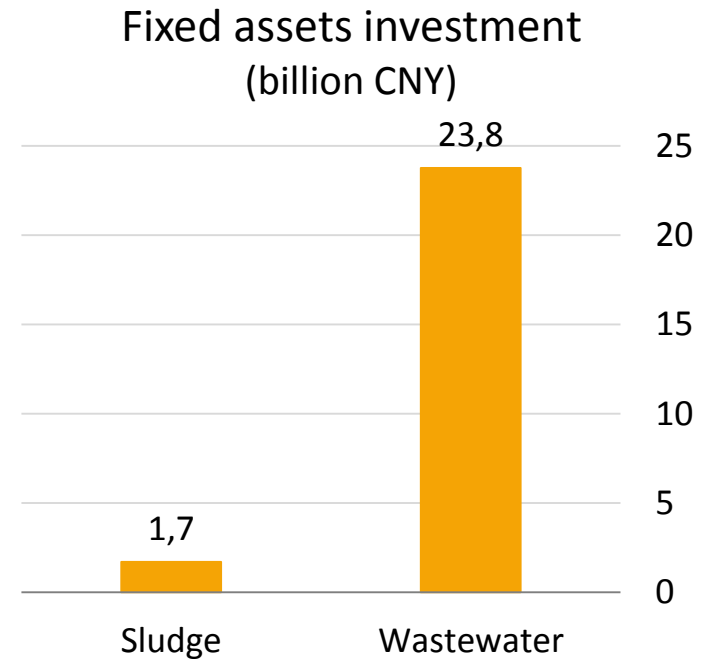
Challenges

❖ Policies/ standards conflict in sludge land use



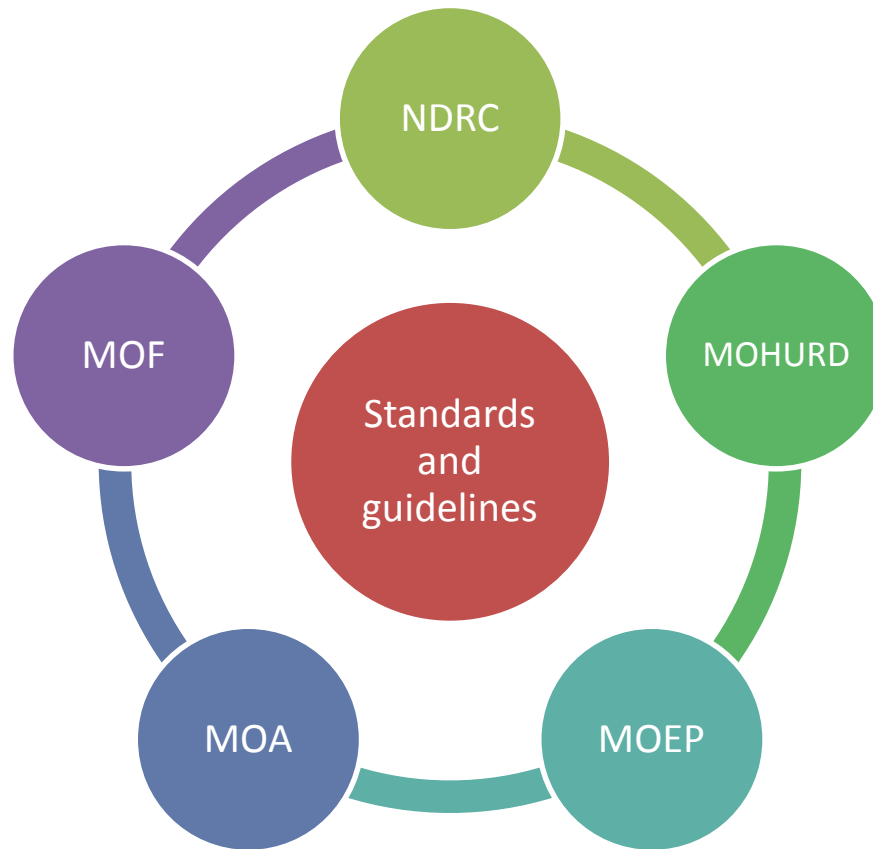
Challenges

- ❖ **Local governments have no idea on technology selection;**
- ❖ **Highly depend on subsidy and lack of sustainable financing mechanism**
- ❖ **Lack of tracking system and public info platform;**
 - Production and content of sludge
 - The sludge treatment process and flow of key pollutants



Recommendations

- ❖ Strengthen collaboration among different departments, and promote land use of safely treated sludge



Technology Assessment

	Nutrient recovery	Pollution (heavy metal, odor, dust)	GHG emission reduction	Energy recovery	Cost (CNY/t)
Landfill	Medium	Negative	Negative	Medium	Positive
Incineration	Negative	Negative	Negative	Medium	Negative
Composting	Positive	Negative	Medium	Negative	Medium
Anaerobic digestion	Positive	Medium	Positive	Positive	Medium

 Positive

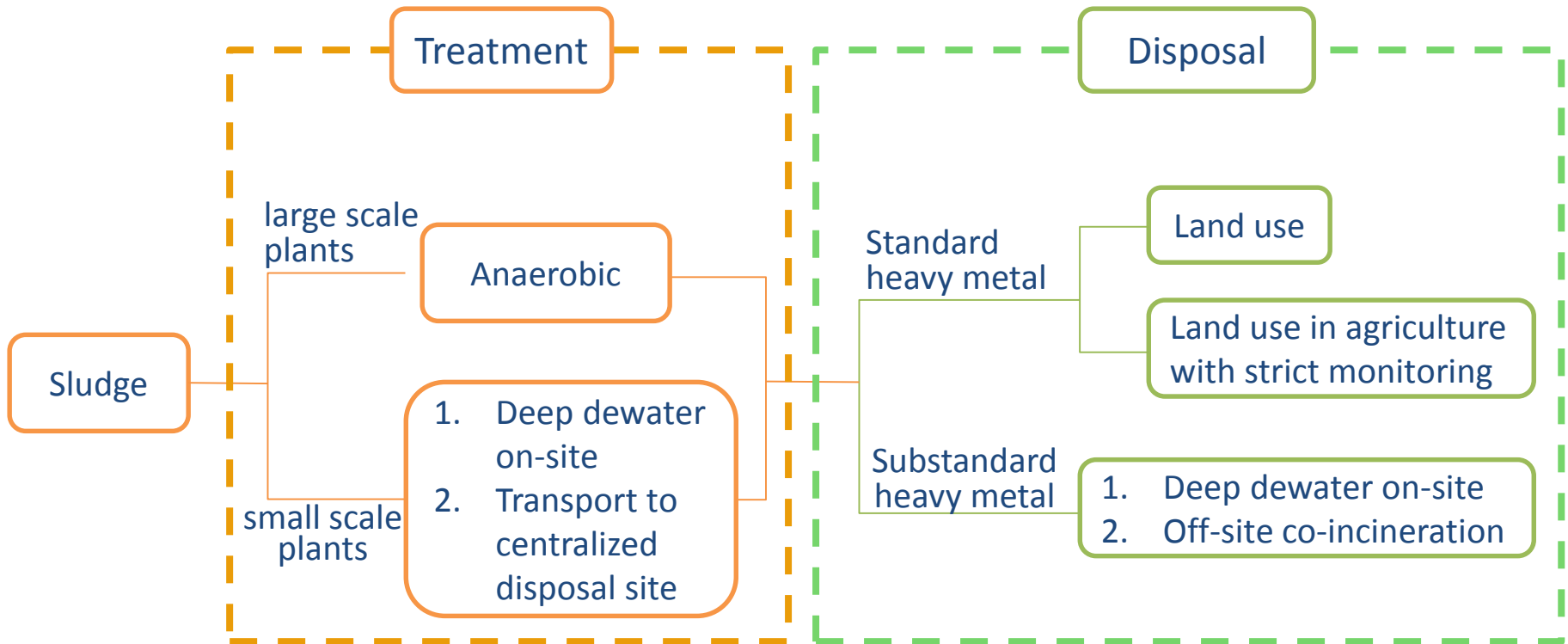
 Medium

 Negative



Recommendations

- ❖ Promote sludge dewatering and drying technology
- ❖ Technology selection based on the content of sludge



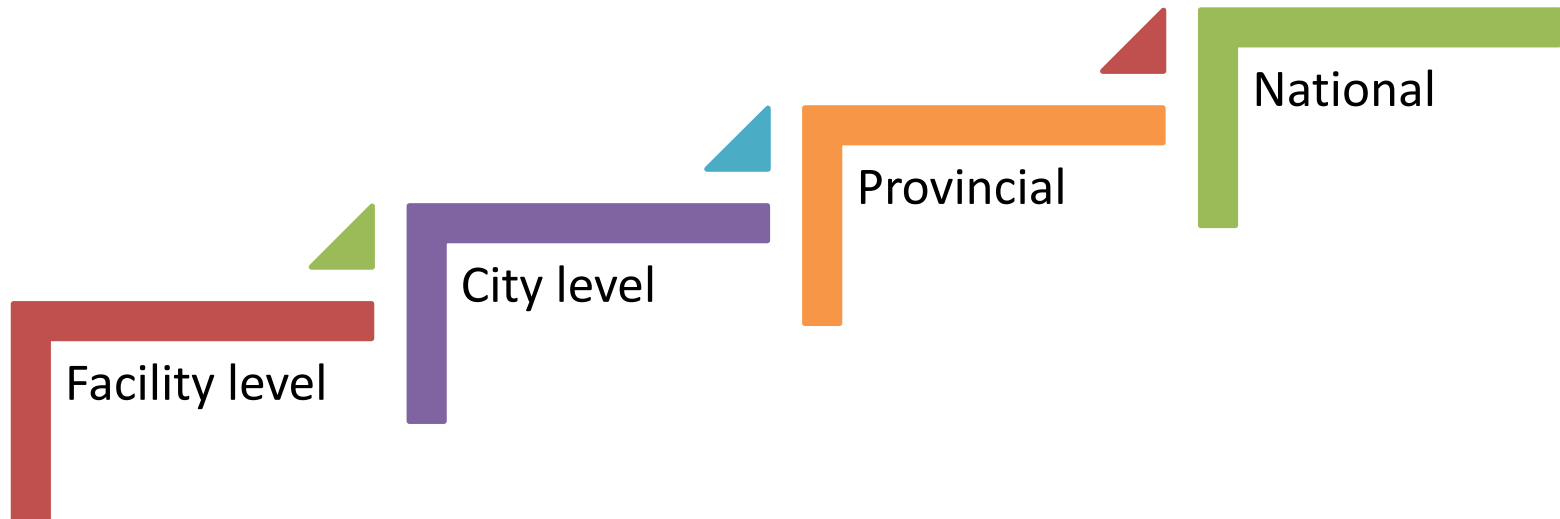
Recommendations

- ❖ **Establish sustainable financing mechanism incorporating multiple stakeholders' participation**
 - Pilot on 'polluter paying' scheme
 - Incorporate sludge disposal fee in water price (0.54-1.17 CNY/t water)
 - Test innovative business models in sludge treatment industry, e.g, PPP
 - Broaden funding sources from various financing organizations



Recommendations

- ❖ **Establish and enhance tracking system and make it open to public**



- ❖ **Strengthen the responsibility of MOEP on sludge treatment monitoring and information disclosure**

Thank you!

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