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# Waste to Resource (W2R) pilot solutions in Vientiane Capital

**Circular Economy Unit,  
December 2025**



# 01 | Waste to Resource (W2R) Concept



# GGGI's Waste to Resource (W2R) approach



**Decentralized Waste Collection Service** to increase access to adequate waste collection and source separation



**Refused Derived Fuel (RDF)** and **Organic Compost/animal feed**



**Waste Recycling Banks in schools** to increase recycling rate



**Mechanical Biological Treatment (MBT) Facility** to increase waste treatment capacity at scale



**Organic waste recovery project** with large waste generators (market, hotels, restaurants)

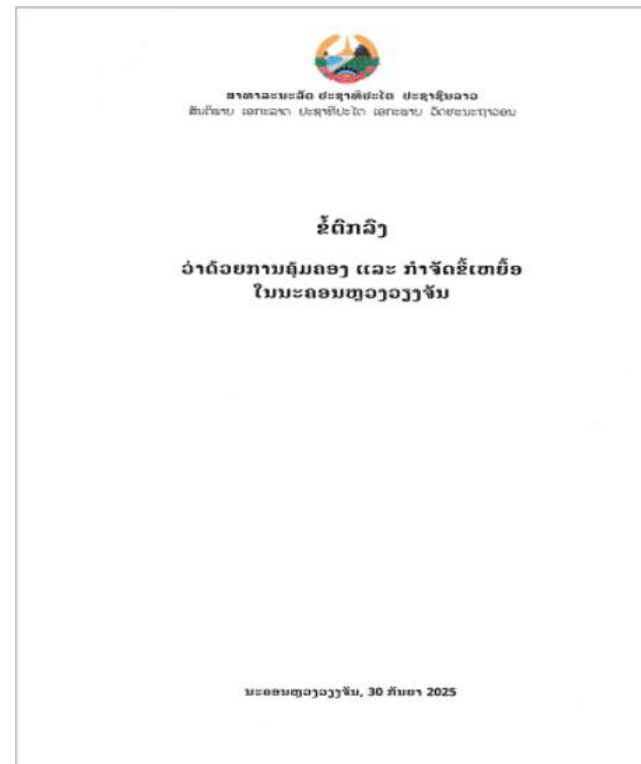
# 02 | Highlights from the W2R project



# Support to regulatory reforms



Instrument	Partner
Sustainable Solid Waste Management Strategy	Vientiane Capital
Sustainable Solid Waste Management Regulations	Vientiane Capital



# Project Components

## Decentralized Waste Collection Service (DEWACS) & Integrated Resource Recovery Center (IRRC)



# 03 | Challenges and Lessons



# DEWACS & IRRC Solutions

Mini electric waste collection truck



## Results and Impact

**40-95%**

increased collection rate

**4(3.5m<sup>3</sup>)**

pioneered using electric garbage trucks

**5,253 tons**

Organic compost processed

**45 officials**

Increased capacity to effective waste management

**8,500 resident**

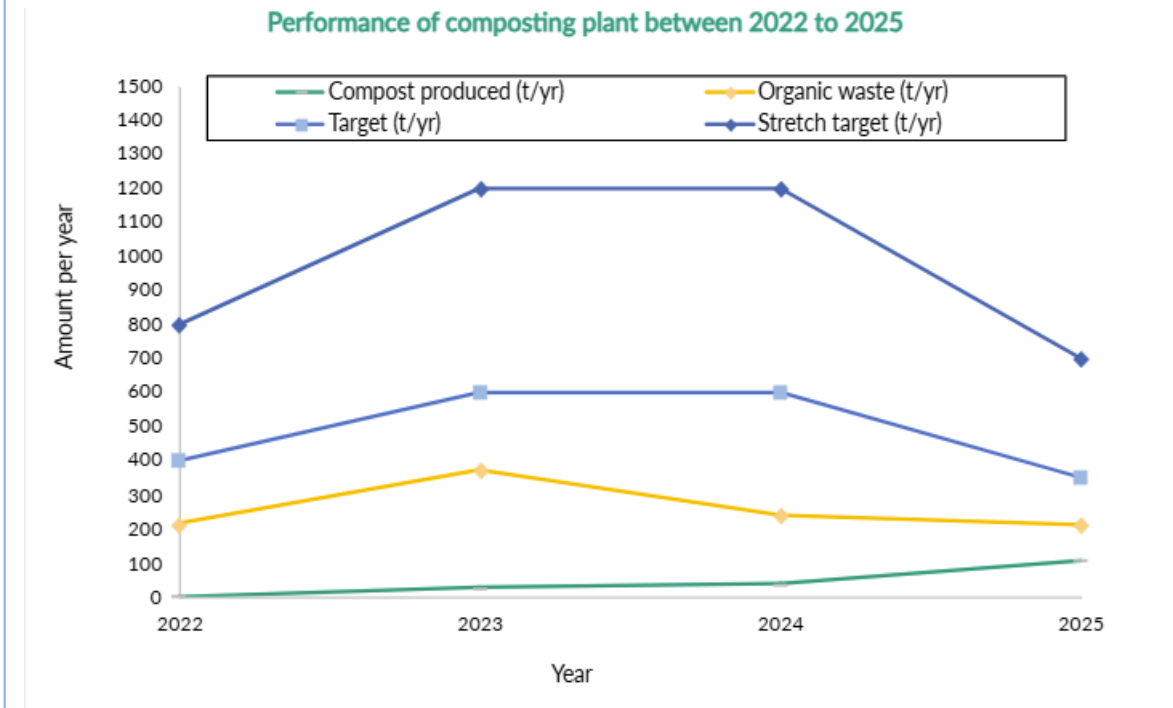
Using DEWACS and increased awareness on source segregation

**10-35%**

Increased source segregation rate (organic and recycles)

# Challenges and Lessons Learned

- 1. Electric Vehicle adoption challenges:** E-Vs frequently break down and spare parts difficult to find on local market
- 2. Capacity building and training:** High staff turn over requires frequent training for operational staff
- 3. Public awareness and behavior change:** The system relies on continuous public awareness raising.
- 4. Quality of service affects community participation:** the system relies heavily on the quality of service of the service provider
- 5. Imperfect business model:** The price of compost alone is too low to sustain the business. The system requires subsidies and multiple revenue streams e.g. upstream collection fees, carbon credits, sale of recyclables etc.





# Thank you



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