



Serviced Household Toilets, FSM and ICT in Antananarivo

Lessons Learned

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Loowatt

BILL & MELINDA
GATES *foundation*



Today: Whole Value Chain Approach

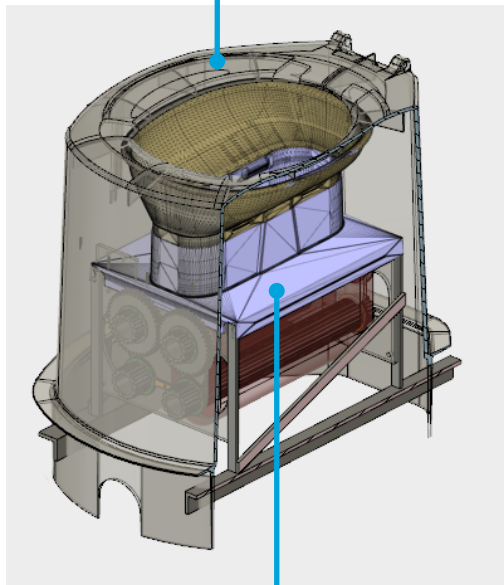


Tomorrow: Value Chain in Partnerships



100 household toilets in Antananarivo

Purchased
Pedestal



Loowatt
Hardware

Locally supplied
Superstructure



*Two hubs: Loowatt digester, SAMVA digester



Treatment System: A.D. + CHP + Pasteurisation

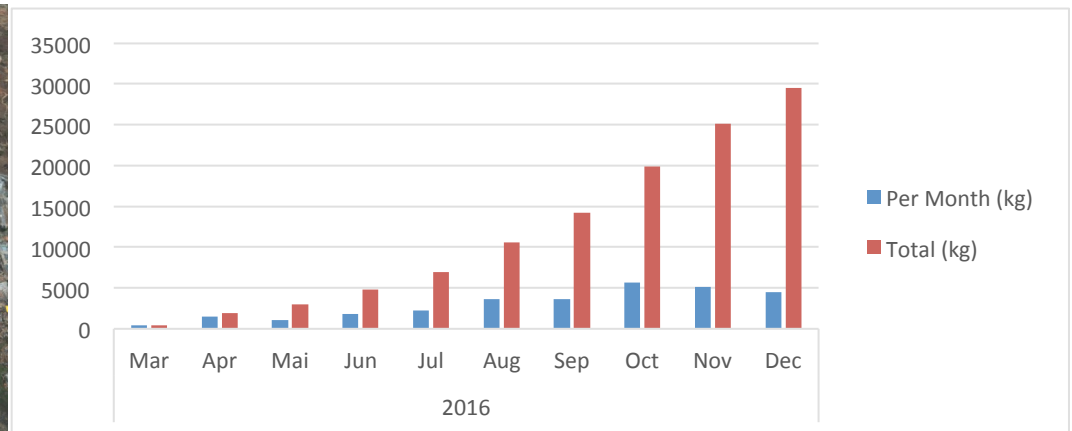


Mobile App and Web Platform



Mobile App & Platform - Functions

- Tracking waste transport: Refills, Containers
- Monitoring waste collected
- Providing assurance of treatment
- Improving logistics management & customer service



Service Model Overview

Item	#
Toilets in current system	100
Number of household users	600
Toilet Refills (purchased 1x weekly)	US\$.75-1.00
Toilet services per week	1
Households that purchase 1 refill / week	98%



FSM Treatment System Overview (60 toilets)

Item	#
Daily Gas Output	25 m ³
Waste processed per week	1.2 T
Exportable Energy (Electricity, Heat)	23 kWh/day, 18 kWh/day
Energy byproduct – estimated annual value	US\$ 500
Fertilizer byproduct – estimated annual value	US\$ 7,200
FSM system replication cost	US\$ 40,000



Lessons Learned

- Product generates demand
- Scale needed for financial sustainability
- Speculative approach to byproducts
- The need for partnerships



Next steps and challenges

- Biopolymer material: Options, availability, and processing
- Sale of value byproducts – began in February
- Partnerships with FSM providers in Antananarivo
- Partnership developments in other global cities



Thank you

- Bill & Melinda Gates Foundation
- GSMA Mobile for Development Utilities
- DeTong Chengdu
- Qube Renewables
- Envirosan
- Airtel Madagacsar
- Loowatt team

