

Cogs within the Circular Economy:

Waste to Resource in Accra, Ghana

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FSM 

Some context..

80% of waste water globally
ends up in eco system
without treatment or re-use

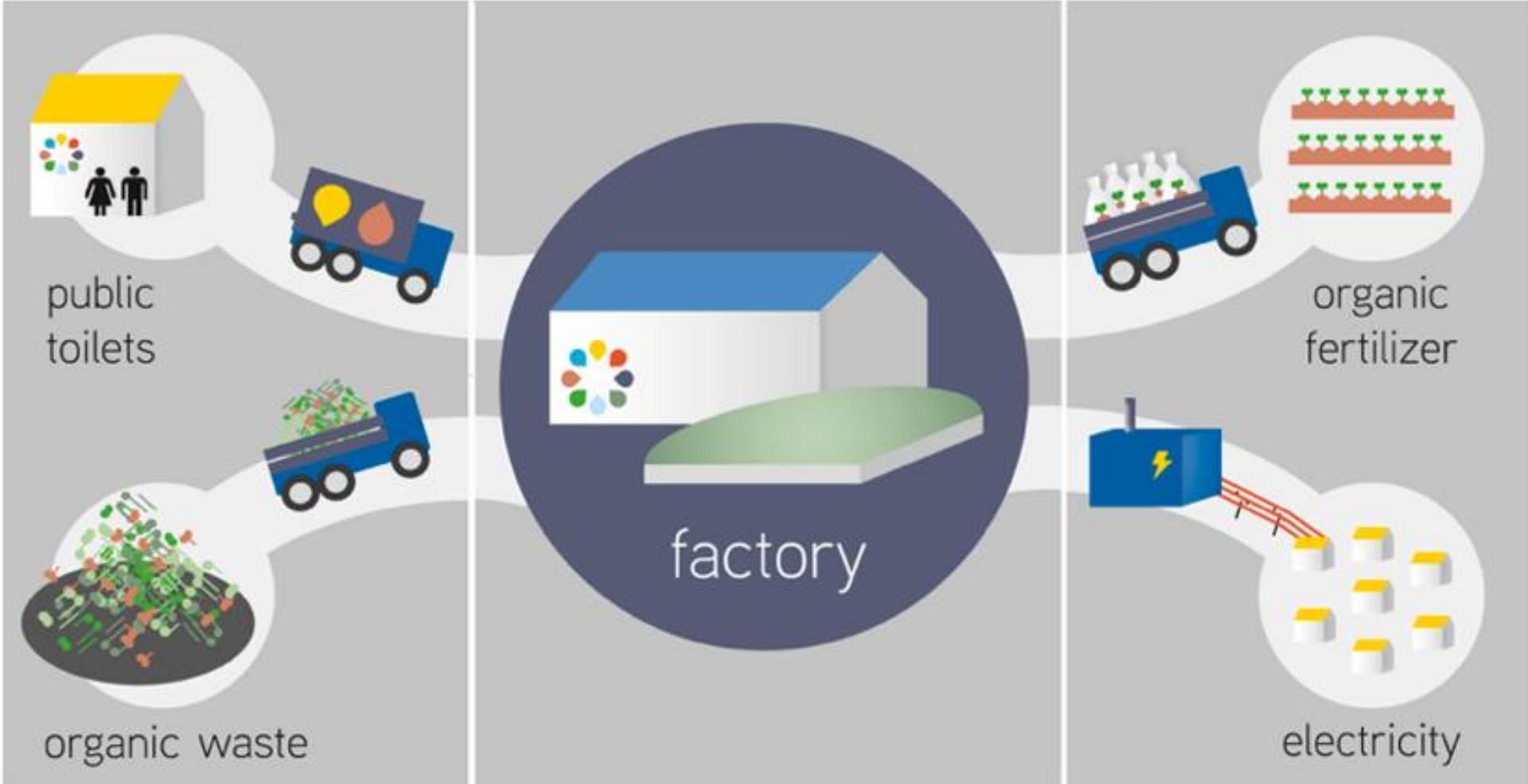


Resource recovery model

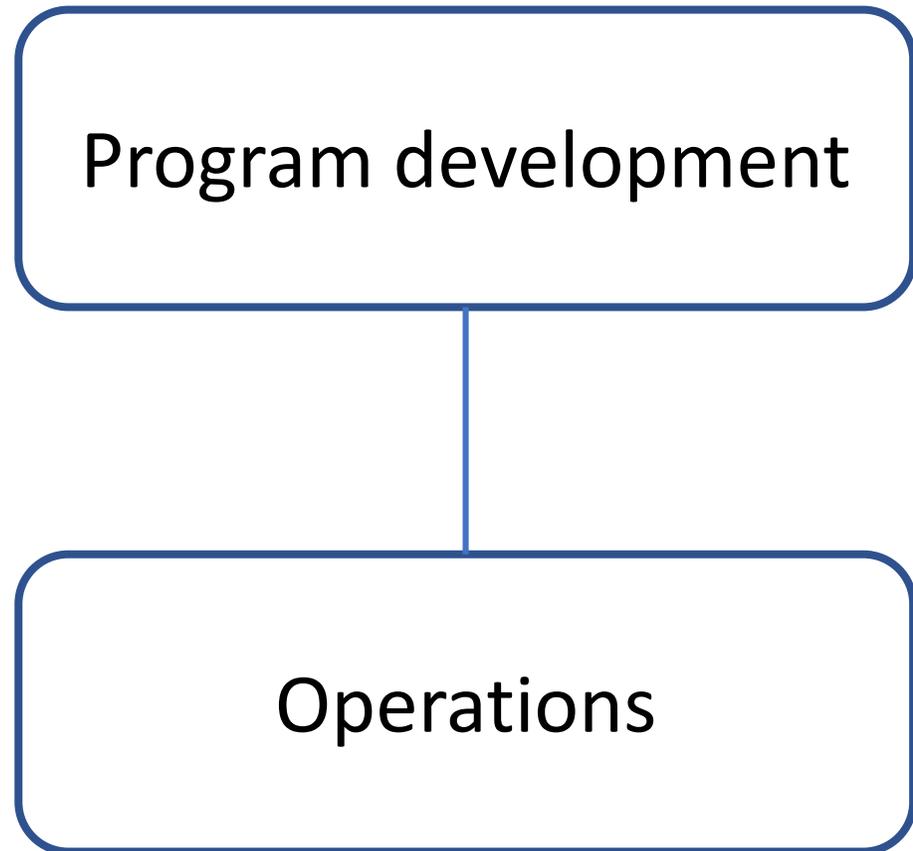
1. waste collection

2. factory

3. sale end products



Business case Safi Sana



- Design / Build turn key plants
- Operational support
- Feasibility

- Sale of products
- Service fee

Tipping fee at the gate: sludge trucks



Tipping fee at the gate: organic waste



Fertilizer sales



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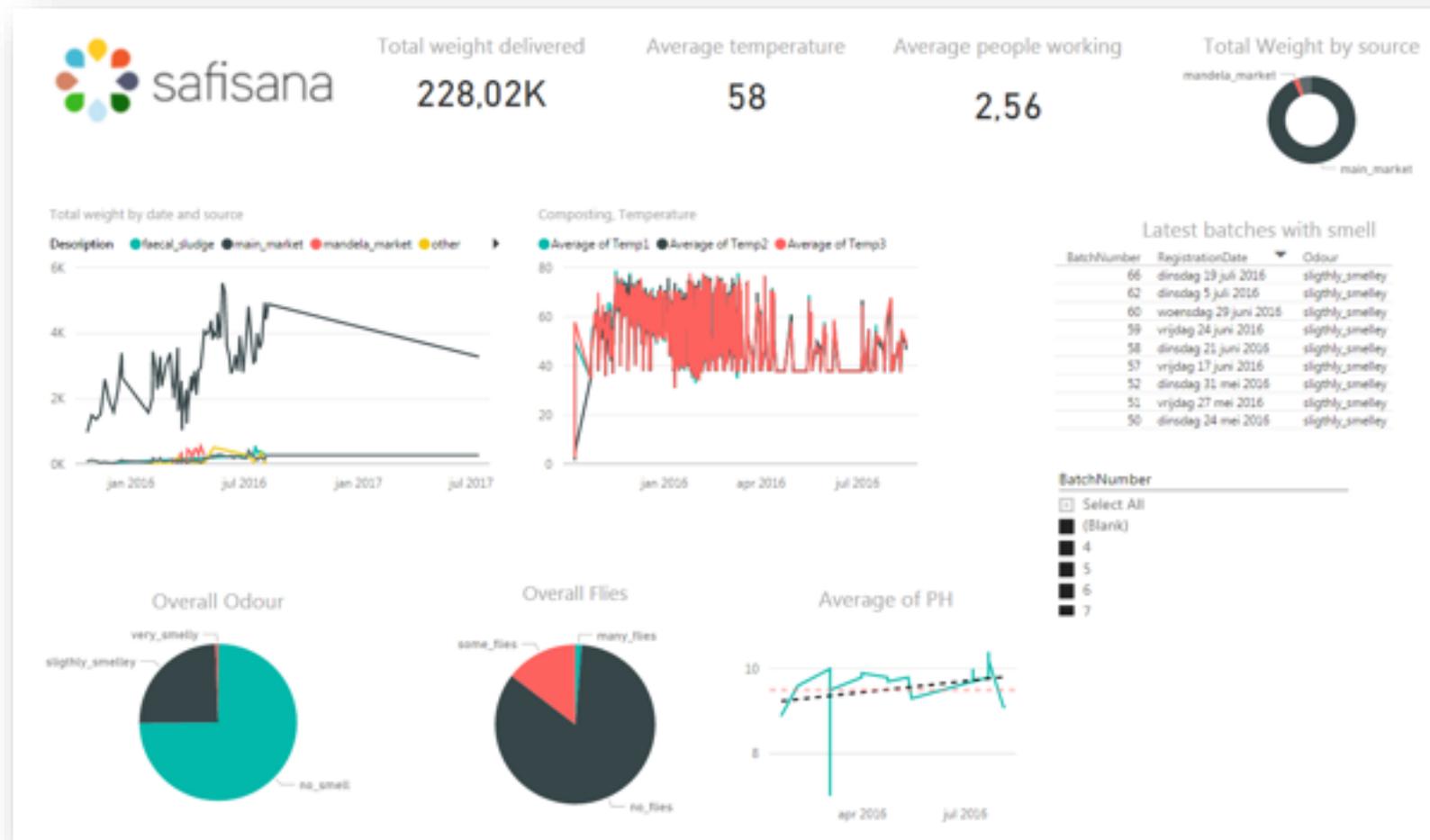
Electricity sales: Power Purchase Agreement



Nursery: seedlings and herbs



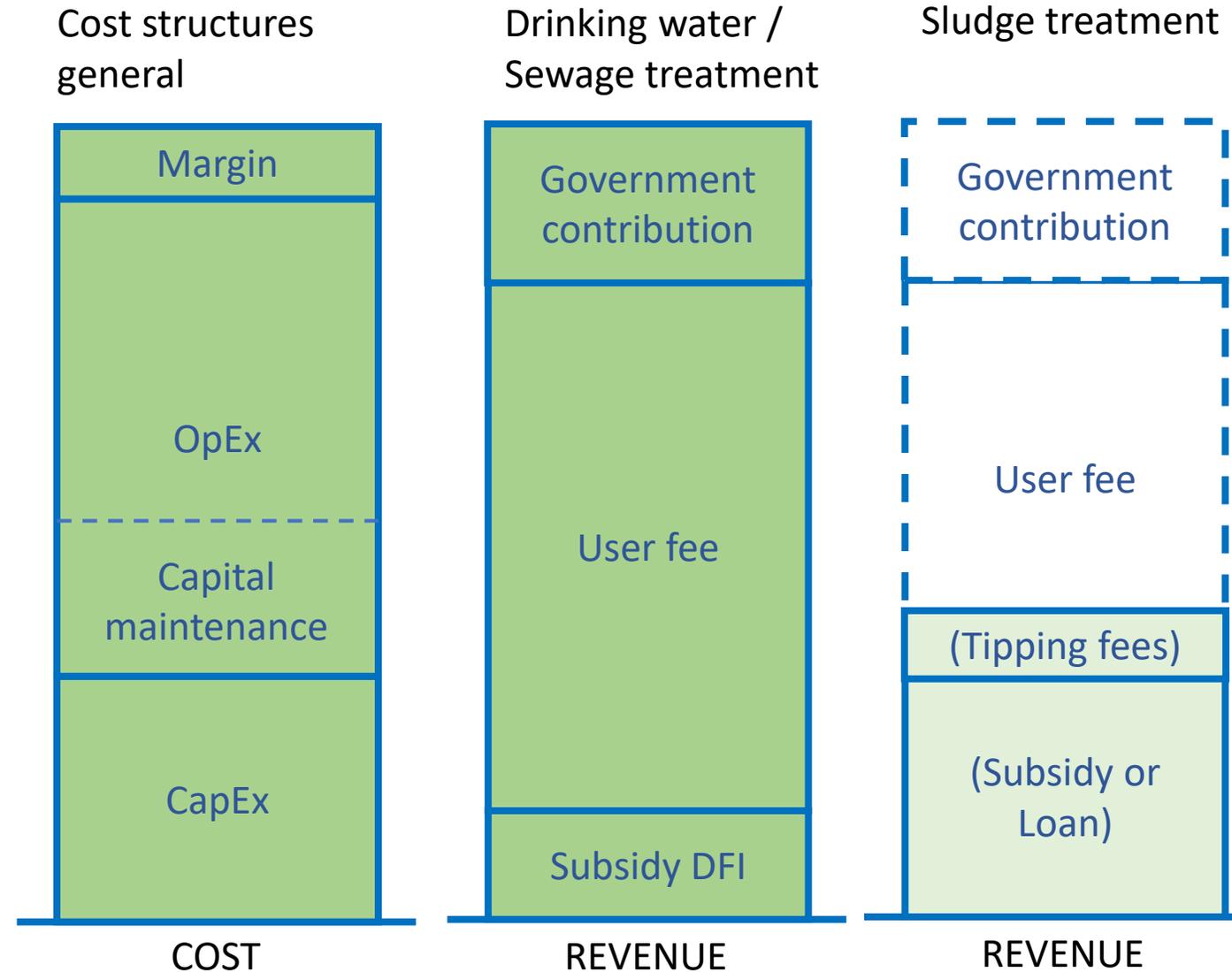
Data collection and remote monitoring



Financing

Financing principles : traditional utilities

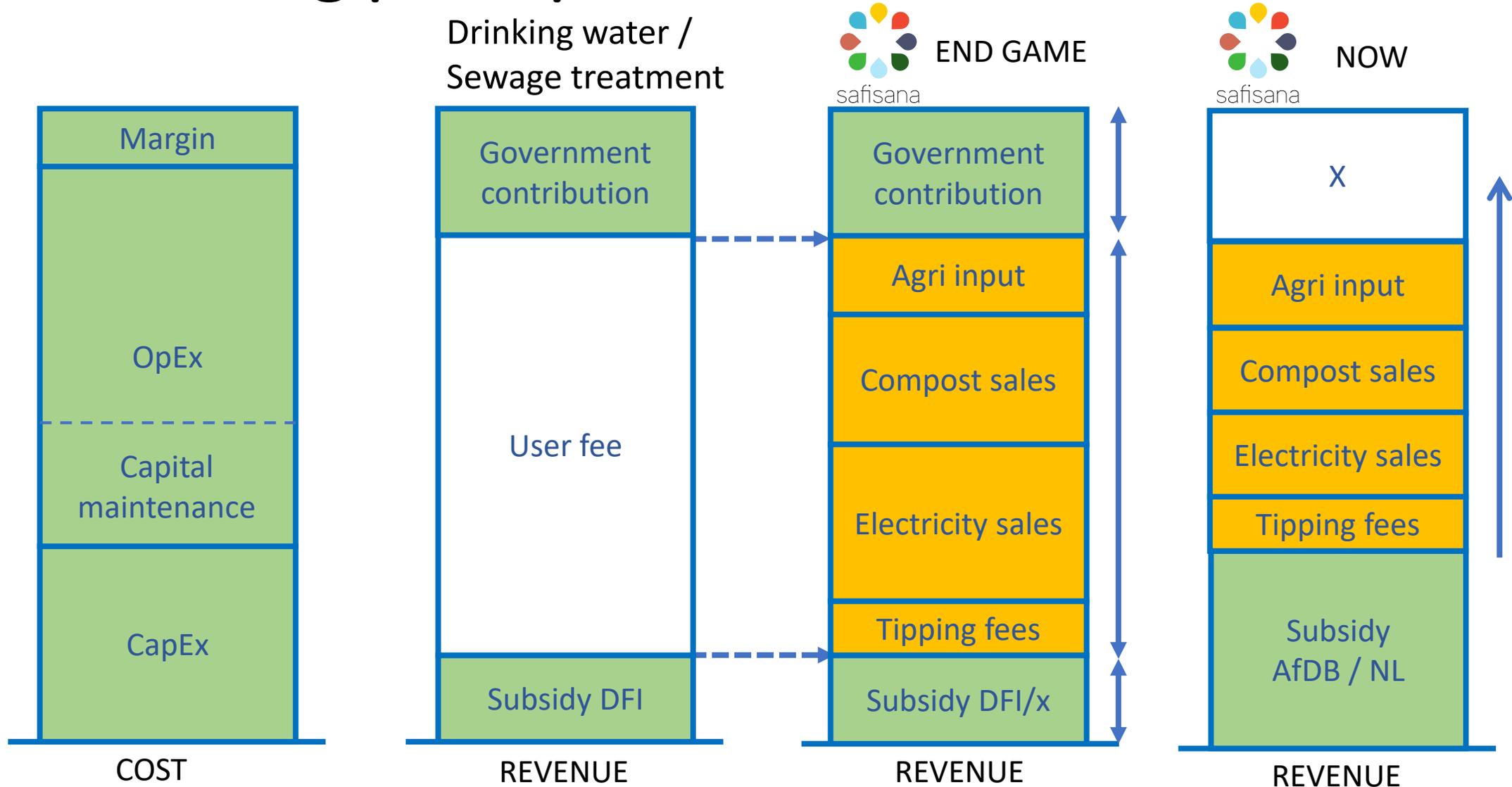
- Investment cost (CapEx)
- Operational cost (OpEx)
- Margin
- Revenues:
 - Subsidies and loans (DFI, Gov)
 - User fees on connections
 - Government contribution
- Now: for sludge treatment...



As a result...

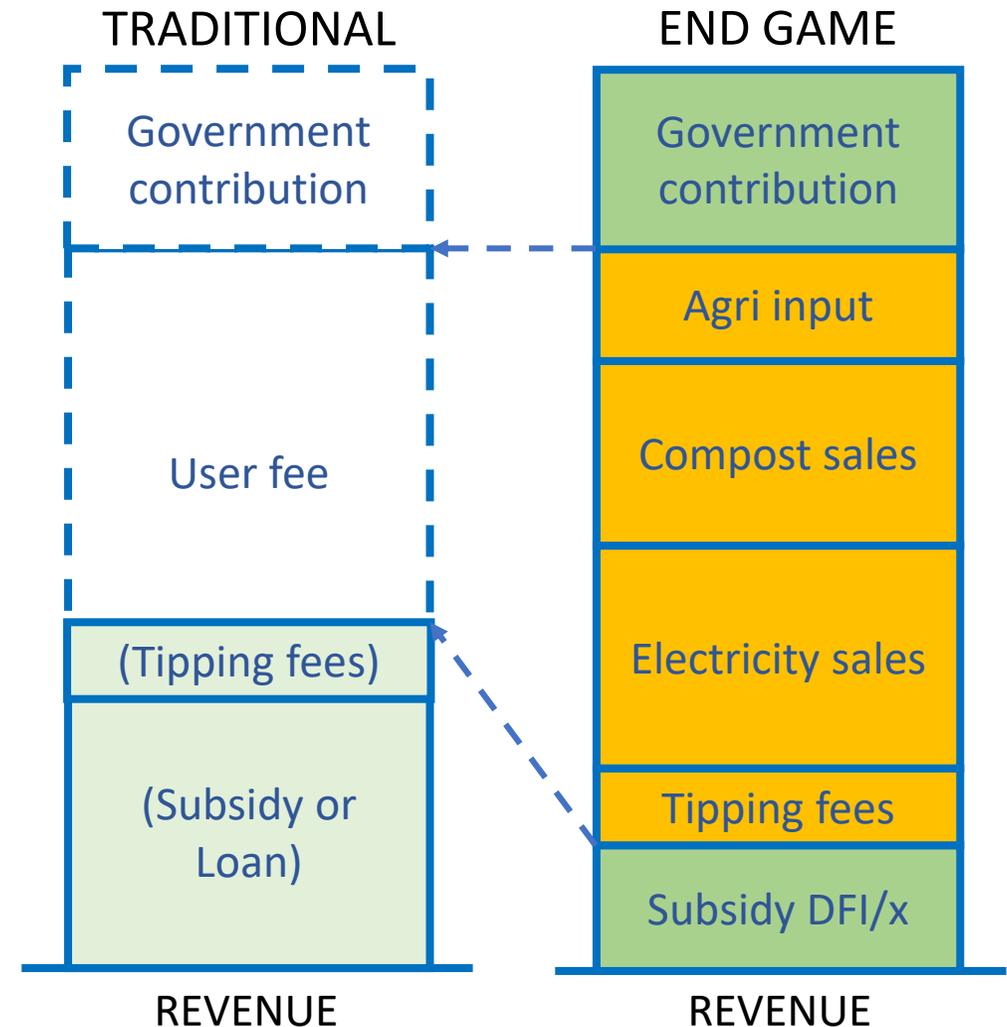


Financing principles : Safi Sana model



Advantages

- Generating an income stream to cover the cost gap of FSM
- Driver for investment in FSM
- Operational responsibility FSM removed from government
- Positive impact on people, environment and economy



Take aways

- Business approach is leading BUT there has to be government contribution;
- Traditional financing models for the utilities have to be fine-tuned to this type of re-use models;
- This is business AND sector development process that involves multiple stakeholders;
- Not a 'one size fits all': different solutions for different settings (even combined!) > opportunity for smart partnerships in the sanitation chain.





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