The Bill and Melinda Gates Foundation Approach to Building the Sanitation Industry
Roots of the lingering sanitation Crisis

- ~2.6 billion people around the world do not have access to “improved” sanitation!
  - current approaches cannot reach scale
  - ~1.1 billion people still defecate in the open
  - >1 million children (under 5) dying of it every year.

- The golden sanitation solution “flush toilet connected to functioning sewerage technologies” is unaffordable for the large majority urban and rural communities!
Roots of the lingering sanitation Crisis

- Non viable market approach
- Expensive expert solutions and misleading concepts
  - Onsite # Off-site sanitation;
  - Small/large scale; decentralized/centralized, wet/dry
  - Limited solutions for scalability

- Limited innovation capacity
  - Limited R&D
  - Limited industrial solution
  - Closed community of experts discussions

Shared toilet in Kenyan slum
Source: WSTF, Kenya
The BMGF WSH team’s approach to moving sanitation products and services to scale

Access to sustainable sanitation is achieved by products and services delivered along the entire value chain at scale. Technologies and services meet users’ preferences and national requirements.
1. Develop innovative Technologies to build the sanitation industry – Deployable prototypes

2. Support the emergence of ready markets and platforms - enabling environment - to adopt innovation (technology, business model, policy / regulatory framework)

3. Build demand for products that people actually want to use

4. Policy and advocacy to promote success and build a larger coalition of champions
Moving sanitation products and services to scale

Reinvent the Toilet Program
Reinvent the Toilet: a waterless, hygienic toilet

Overall Specifications:

- Affordable: less than $0.05/person/day now, moving towards $0.01/person/day (endgoal).
- Safe: remove all pathogens from the environment.
- Appealing: sustained use > 5 years.
- User-centered: users create demand.
- Sustainable: service providers (public or private) can recoup complete lifecycle costs (make a business work).
Moving sanitation products and services to scale

Omni-Ingestor program

- Completely remove pit contents (sludge & trash)
- Separate trash and sand from sludge and treat water for local reuse
- Be robust such that the OI doesn't break down
- Inexpensive to operate; Inexpensive to purchase; superior business model compared to Vacuum trucks and manual emptiers
Emptying Pits

- Faster, safer emptying = more money to the Pit Emptiers
- Localized scheduled emptying = reduction of cost
- Pumping out to a ‘transfer station’ = greater access
Moving sanitation products and services to scale

Omni-Processor Program

- Remove 100% pathogens from fecal sludge
- Community power/resource plant? - Recover energy (fuel, electricity, biochar, biogas, biodiesel), nutrient/fertilizer and clean water…
- Profitable business for investors and operators
- Reduced service fees for poor families living on latrines
Moving sanitation products and services to scale

Omni-Processor - Potential Waste to Energy Industries/Technologies applicable to fecal sludge processing
Moving sanitation products and services to scale

Ready markets / platforms for uptake of innovation

Examples of investment

- Sanitation pricing and model
- Structuring fecal sludge emptying market
- Up-scaling access to sanitation
Submit your idea to reinvent the toilet – RTTC 3

Reinvent the Toilet Challenge, Round 3

Open Date: October 1, 2012
5 pages Proposals Due: November 8, 2012

To designing, prototyping and testing entirely stand-alone, self-contained, practical sanitation modules which intake bodily wastes or fecal sludge collected from pit latrines and septic tanks and swiftly dispose of them without any incoming water piping, outgoing sewer piping or electric or gas utility services

Thank You