## Brief overview of conditions for water, sanitation and hygiene grants by the Bill & Melinda Gates Foundation

<table>
<thead>
<tr>
<th>START/END DATES</th>
<th>REINVENT THE TOILET CHALLENGE ROUND 1 and 2</th>
<th>GRAND CHALLENGES EXPLORATIONS ROUND 6</th>
<th>GRAND CHALLENGES EXPLORATIONS ROUND 7</th>
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### GOAL

**Create a toilet that:**
- removes pathogens from human waste and recovers valuable resources such as energy, clean water, and nutrients.
- operates “off the grid” without connections to water, sewer, or electrical lines.
- costs less than 5 cents per user per day: the anticipated capital and operational cost for the final products (commercial units) is expected to be less than $0.05/user/day, both for the family and neighborhood solutions.¹

**Create sanitation technologies that:**
- support sanitation services in contexts **without** centralized, waterborne sanitation
- are non-conventional technologies that are affordable, durable, convenient, aesthetic, effective
- add income or reduce costs in sanitation service delivery chain through nutrient recovery, electricity generation or industrial usage

**Create sanitation technologies that:**
- make sanitation services safe and sustainable for the poor in a non-networked sanitation fashion
- improve human waste containment and management technologies

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¹ This specification was included in the call for Round 3 of the RTTC but was less clearly specified in Rounds 1 & 2.
- promotes sustainable and financially profitable sanitation services and businesses that operate in poor, urban settings.
- is a truly aspirational next-generation product that everyone will want to use — in wealthy as well as developing nations.

**REQUIREMENTS**

Proposals must be:
- Different from approaches currently under investigation or employed
- Designed for resource-limited settings
- Provide an underlying rationale, a testable hypothesis, and an associated plan for how the idea would be tested or validated in phase 1 to meet the attributes outlined below:
  - Low life-cycle cost
  - Long-lived and easy to use/maintain
  - Safety / backup mechanism in the case of system failure
  - Minimal water, energy, space requirements
  - Aesthetically appealing

Proposals must be:
- Designed for low income urban settings, formal peri-urban settings, or dense rural settings in **Sub-Saharan Africa and Asia** where demand for fecal sludge emptying and treatment are high
- Be new ideas or **important improvements** to existing solutions
- Provide an underlying rationale, a testable hypothesis, and an associated plan for how the idea would be tested or validated

**AREAS CONSIDERED**

- Sanitation capture and containment technologies: improvements or alternatives to pit latrines
- Solutions to menstrual management and safe disposal of child feces
- Extraction and transportation
- Hygienic manual or mechanical emptying equipment for urban areas
- Sludge processing for community energy generation in urban areas
<table>
<thead>
<tr>
<th><strong>AREAS NOT</strong></th>
<th><strong>Solutions that:</strong></th>
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<tbody>
<tr>
<td><strong>CONSIDERED</strong></td>
<td>- Rely on centralized sewerage systems</td>
<td>- Behaviour change programming (e.g., implementation of community led total sanitation or related approaches)</td>
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<td>- Rely on chemicals or other products that cause environmental sustainability issues</td>
<td>- Boutique technologies that cannot be scaled, or technologies with capital or operating requirements that are inappropriate for serving the urban poor in developing countries</td>
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<td>- Are incompatible with development country context</td>
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</tbody>
</table>

| **GRANT AMOUNT** | 100,000 $ initially, opportunity of follow-on grant of up to 1 Mio $ | 100,000 $ initially, opportunity of follow-on grant of up to 1 Mio $ |