UNC Water Food Energy Nexus Conference

March 5, 2014

Dr. Ku McMahan
Challenges and Opportunities

- Water is the “petroleum of the next century” according to Goldman Sachs
- Developing country water markets are expected to grow by over 10% for the next 5-10 years
- Ag represents 70% of global water demand; 55% of traditional irrigation water is wasted
- Revenues of water-related businesses focused on disruptive technologies will grow from $522B - $1T by 2020

OECD. Water to 2050. 2008
Securing Water for Food

- $25 million Grand Challenge for Development funded by USAID and Sida
- Water/Food nexus with 3 broad focus areas: Re-use, capture/storage, & salinity
- Goal: enable the production of more food with less water and/or make more water available for food production, processing, and distribution.
- Multiple “calls” for innovations
- Technology and business model innovations
- Financial and non-financial assistance to winners
Securing Water for Food will:

- Develop/advance prototypes, products, and business models that can promote economic growth and community stability.
- Pilot/test solutions on-the-ground that will improve health and economic well-being of local communities
- Launch point solution prizes that can apply the most innovative technology to overcome key business barriers
The Focus Areas:

**Focus Areas**: New and Sustainable Water Solutions for the Food Value Chain

- **Salinity**
  - Low-Cost
  - Low-Energy
  - Brackish Water Focus/Reducing Saline Aquifers
  - Small Community Systems
  - Applicable to one or many parts the food value chain

- **Water Capture and Storage**
  - Low-Cost
  - Low-Energy
  - Applicable to multiple parts of the food value chain
  - Improve Water Sustainability

- **Water Re-Use and Efficiency**
  - Low-Cost
  - Low-Energy
  - Reduce water demand in the food value chain
  - Improve water use and crop yields
First call for innovations: BAA Round One

- $15 million call for innovations in all three focus areas
- Innovators can come from nearly anywhere; implementation must take place in developing or emerging country
- Released November 2013
  - Concept Note submission closed January 2014
  - Semi-finalists to be announced March 2014
  - Winners to be announced September 2014
- Received 520 applications from over 90 countries
BAA Round One Process:

**Source**
- Understand the state of innovation in our three focus areas
- Clearly define barriers that we’re asking innovators to solve
- Focus on solutions that have been proven in full scale operational pilots

**Select**
- Convene diverse panel of qualified judges from private sector, academia, and government
- Judge applications on innovation, sustainability, and business viability

**Scale**
- Intensive financial and technical support to winners
- Mentoring from private sector coaches
- Structured pitch days with investor circles
- Rigorous media/PR effort to shine a light on most promising innovations
## Key Barriers:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Barriers</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase private sector investment in water salinity, re-use, efficiency, capture and storage technologies development and deployment</td>
<td>Lack of business models appropriate for developing world market</td>
<td>Provide funding for technologies and business model innovations</td>
</tr>
<tr>
<td></td>
<td>Distribution Systems aren’t adequately disseminating water technologies</td>
<td>Build relationships between existing distributors and water tech companies and build new relationships through Water Innovation Accelerator</td>
</tr>
<tr>
<td></td>
<td>Difficult to find private investment to bring solutions to scale</td>
<td>Incentivize private investment to scale solutions with risk mitigation and project development</td>
</tr>
</tbody>
</table>
Round One Eligible Stages of Innovation

- **Validation Stage**
  - 30% of funding

- **Commercialization Stage**
  - 70% of funding
## Round One Funding

- Awards made for “up to” amount based on stage in lifecycle

<table>
<thead>
<tr>
<th>Stage of Innovation</th>
<th>Maximum Initial Financial Support</th>
<th>Maximum Future Financial Support (total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1 – Validation</td>
<td>$100,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>Stage 2 – Commercialization/Scaling</td>
<td>$500,000</td>
<td>$3 million</td>
</tr>
</tbody>
</table>

- Requires achievement of technical and financial milestones
Acceleration Track

- $3 million Acceleration Facility to help awardees reach technical and financial milestones

- Integrated acceleration track will include:
  - General business development – all awardees
  - Partnership facilitation – later stage awardees
  - Investment facilitation – later stage awardees

- Tailored acceleration workplans for all awardees specifying technical and financial milestones
Partnerships

- Partnerships are key to Grand Challenge model and necessary for accelerating innovation.

Types of Partners

- Founding Partners
  - Contribute pooled financial funding and make all strategic and programmatic decisions.
  - USAID and Sida (currently)

- Additional potential partnerships:
  - Co-investment partnerships with agribusiness, food and beverage, or similar companies.
  - Co-investment partnerships with commercial water technology, engineering, or similar companies.
  - Partnerships to develop and commercialize new water technologies.
  - Co-investment partnerships with investors and/or other financial intermediaries.
  - Partnerships with risk insurance entities.
Expected Outcomes

Objective: Strategically invest in the development of dynamic innovation ecosystems to accelerate the pipeline and pace of local innovations and local development
Dynamic, connected, successful local innovation ecosystems result in a range of positive development benefits

- A new pipeline of next generation social impact innovators (especially valuable given those closest to the challenges, are most likely to solve them)
- Improved support system for solutions to accelerate and grow locally (for example, mentors, early stage capital, peer networks)
- New start-up enterprises & increased competitive edge of existing businesses
- Economic growth and employment
- Reversal of brain drain
- Attraction investment capital
- Culture of risk taking and increased democratization of economic opportunity
To advance a dynamic innovation ecosystem, new approaches and investments must be made in the 5 R’s (resources, roles, relationships, rules, and results) of the system, such as:

- Catalytic programs such as start-up/business plan competitions, prizes, hackathons, challenge programs to uncover and harness innovators
- Strong innovation institutions and structures such as technology parks, science clusters, university technology transfer offices, government research centers, accelerators, incubators, and innovation hubs
- Innovative finance mechanisms, especially for early stage innovations, such as angel networks, diaspora bonds and venture funds
Discussion Question #1:
How has your organization contributed to building an ecosystem for water innovation and water entrepreneurs?
Discussion Question #2:

Where (geographically) is water innovation lagging behind, and what do you think are the three biggest reasons that they are lagging?
Discussion Question #3:

What relationships do your organizations have in developing countries that could help build an ecosystem for water innovation?

To what extent are you already catalyzing this network for water innovation?
Discussion Question #4:

What capacity have you found exists in developing countries to scale water innovations?

Where are some of the strongest organizations and who are they?

What types of initiatives are they engaged in?