



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Innovation Challenge

Ideas on the How

- The “Innovation Challenge” is a cost effective way to identify breakthrough ideas and solutions to important process and strategic challenges facing industry, government and academic institutions
- “Thinking outside the box”

Elements of Successful Innovation Challenges

- Identify a specific need or problem to be solved.
 - Broad statements or needs will result in ambiguous results
- Set a specific timeframe
 - Weeks, months, or years, depending on the complexity of the problem. Not open-ended
- Establish evaluation criteria
- Encourage participation
 - Marketing strategy

Common Challenges to Achieving Innovation

- Fostering internal culture of experimentation and innovation
- Competing internal agendas and goals and/or fear of conflicting existing revenue streams and roles
- Overcoming the middle-mgmt “permafrost” or “anti-bodies” that can be resistant to change
- Deferred commitment and delayed action (i.e., need more research and analysis before moving forward)
- (from www.venturebeat.com)

Considerations for EM

- Can you define your issue/challenge?
 - Site Specific or Complex wide?
- How do you want to structure your challenge approach? Moving outside traditional R&D approach often brings better results
 - Collaborative or competitive?
 - Single winner or multiple winners?
- Who do you want involved?
 - New minds or those who already have deep knowledge of the issues? Non-traditional participants often bring best results
- What can you “offer” winners? People compete for different reasons.
 - \$
 - Patents
 - Prestige/Publicity
- Facilitated by professionals?
- Use of existing “competition platforms”
 - IT platforms in Silicon Valley
- How to market/advertise?

Who to Engage:

- Students/Academia
- University/Industry Collaborations
- Industry/DOE contractors and/or others
- Private citizens
- Trade Groups
- Regulators

- Dedicated innovation teams
- Innovation Centers of Excellence
- Technology education/university partnerships
- Entrepreneur Programs
- Startup Investment
- Innovation Excursions
- Accelerator partnerships
- Startup acquisitions
- Innovation Outposts
- Open innovation

Example 1: Innovation Day

- Brings together a group to brainstorm ideas
- Perhaps more strategic idea generation than specific technical problem solving
- Facilitated event
- Structure:
 - Opening/Warm-up/Brainstorming Techniques
 - Develop Concepts (could be “sticky notes on wall”)
 - Pitching Ideas/Down-selecting
 - Capturing results and FOLLOW UP

Example 2: ORP Grand Challenge

- Focused on a list of technical challenge areas
- Open to anyone with an existing relationship with DOE-ORP
 - National laboratories
 - Federal employees/Interns
 - Contractors/Sub-contractors
 - Universities
- No monetary “prize” to winners, but goal to implement winners who received “credit” and recognition
- Focus on ideas/solutions implementable in near term....not R&D
- Fill-able template for submission. Brief submissions
- Score sheets with criteria

Example 3: Roundtable

- Roundtable discussion with experts in the field regarding a specific challenge for EM
 - Include industry experts
 - Experts from around the world

Example 4: P to the 4th

- Potential Pilot Program Papers (PPPP)
- Provide white papers outlining a potential innovation or imitative to be implemented at a DOE site addressing;
 - Cost savings
 - Time savings
 - Scope adjustment

Closing Thoughts

- Demonstrated benefits to innovation challenge process
- Need to be carefully structured
 - Issue definition
 - Participants
 - Implementation planning
- There are risks:
 - Running competitions can be expensive
 - Information security and safety can be a consideration, depending on the problem being addressed
 - Follow-thru will be important