Sustainability is a Process, Not a Product
What is Sustainability?

- of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <SUSTAINABLE techniques> <SUSTAINABLE agriculture>

- of or relating to a lifestyle involving the use of sustainable methods <SUSTAINABLE society>

From Merriam Webster’s Dictionary Online (2010)
Elements of Sustainability

- Energy
- Materials
- Toxicity
- Waste
- Money
- Satisfaction
  - Is there a correlation between economic growth and happiness?
Distinguishing...

- Energy efficiency vs. energy conservation
- Efficiency vs. Sufficiency
- Words...
  - Regenerative Design
  - Permaculture
  - Cradle to cradle production
Complexity

- For every complex problem there is an answer that is clear, simple, and wrong. - H. L. Mencken

- When Geeks Build Green
The Endless Cycle of Problem Solving
Life’s Endless Journey
Today’s solutions are tomorrow’s problems

- Problem: Electrical Transformer Fires and Fires in Hydraulic Equipment (e.g., die presses)
- Cause: Hydraulic Oil Ignites
- Objective: Find an oil with a lower flash point
- Solution: Add PCBs to Hydraulic Oil.
Results

- Fewer Transformer Fires
- Fewer Explosions in Hydraulic Presses
- BUT... We found that PCBs cause (in animals):
  - Cancer
  - Immune system effects
  - Reproductive problems
  - Nervous system disorders
  - Endocrine disruption
Cycle of Growth

- Identify a problem
- I find a solution
- I work to implement the solution
- The solution is in place
- It creates a new problem
- Finally admit there is a new problem
- Repeat until frustrated
Social and historical context is important
The way out of the cycle is to understand that there is no ultimate answer

(except for 42, for those of you who have read The Hitchhiker’s Guide to the Galaxy)
The Good News is that this is Not Bad News