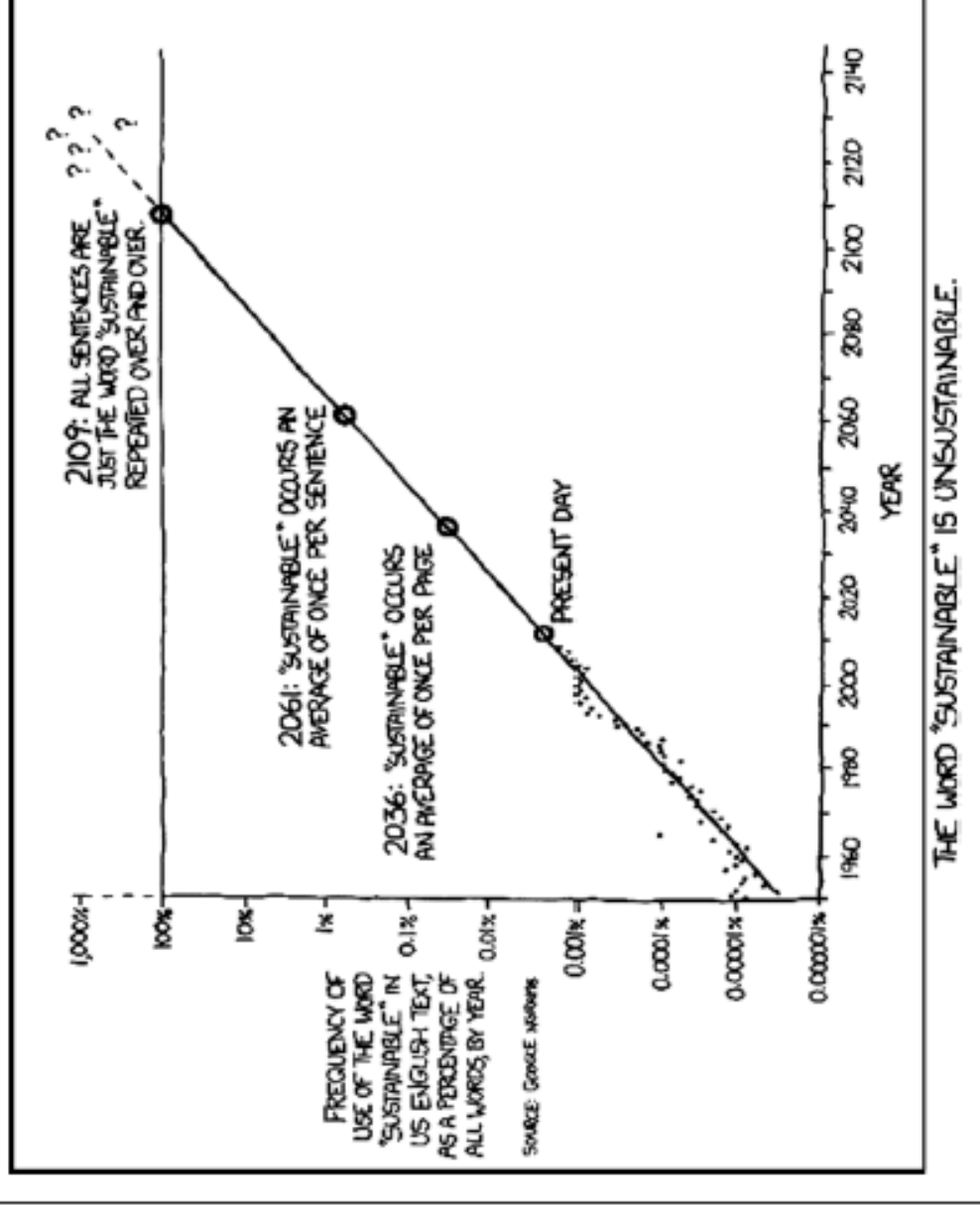


# Sostenibubble ..... Sosteniballe

Figure 1-1. The Unsustainability of Sustainable



## **Matters of Scale - Reaction Times (world watch institute)**

- **Elapsed time between stimulus and involuntary human response (e.g., blink)220 milliseconds**
  - **Between stimulus and voluntary response (e.g., braking to avoid obstacle)384 milliseconds**
  - **Between emergency 911 call and arrival of fire department (Seattle, 2005)4 minutes, 14 seconds**
  - **Between Japan's attack on Pearl Harbor and President Franklin Roosevelt's declaration of war 22 hours, 37 minutes**
  - **Between the conception and birth of a human being266 days**
  - **Between the reporting of the Antarctic ozone hole and the effective date of the Montreal Protocol3 years, 7 months, 16 days**
  - **Between the Einstein/Szilard letter to Roosevelt warning of Nazi atomic weapon research and the first atomic blast ("Trinity" test) in New Mexico5 years, 11 months, 14 days**
  - **Between President John F. Kennedy's speech calling for the United States to go to the moon and the Apollo 11 landing8 years, 1 month, 27 days**
  - **Between NASA scientist James Hansen's August 1988 U.S. Senate testimony on the reality of global warming and a substantive U.S. federal response17 years, 10 months +**
- Sources: Individual times: Robert J. Kosinski, Clemson University. Fire response: City of Seattle government. Roosevelt speech: History and Politics Out Loud ([www.hppl.org/fdr/war](http://www.hppl.org/fdr/war)). Human gestation: Gale Encyclopedia of Childhood and Adolescence. Einstein/Trinity: American Institute of Physics ([www.aip.org/history/einstein](http://www.aip.org/history/einstein)), Wikipedia. Kennedy speech/Apollo 11: Wikipedia. Hansen testimony: J.N. Wilford, New York Times, August 23, 1988.