

Tuesday, May 05, 2009 (file cac213)

To: Dan Breedon

Fr: Ed Miller

Subj: Technology advances applicable to the general plan

Ref A: D. Brunner et-al, Distributed Geospatial Data Processing and Functionality to support Collaborative and Rapid Emergency Response, IEEE Journal of Selected Topics in applied Earth observation and Remote Sensing, Vol 2 #11, March 2009, pp 33-46

Ref B: C. Chan et-al, Powering Sustainable Mobility: Roadmaps of Electric, Hybrid, and Fuel Cell Vehicles, Proceedings of the IEEE Vol 97 #4, Aril 2009, pp603-607

Ref C: Time magazine's 100 of the World's Most Influential People, In particular, Scientists and Thinkers: p 126, 130, 132, 136 and Global Business: p8

Ref D: History Channel, Carbon Education, 5/4/09, 9-10 PM

Comments:

1. Ref A describes procedures for processing Very High Resolution (VHR) satellite (e.g.Quickbird and Ikonos) imaging to support intervention in the event of a disaster.
2. Ref B provides a roadmap of a variety of vehicles based on functionality and fuel economy up to 2030. By 2030 they predict that 85% of sales will be hybrids.
3. Ref C provides a subset of influential people whose expertise could affect Butte County by acting as high confidence filters of complex problems.
 - a. P 126, Amory Evans head of the Rocky Mountain Institute makes the grade for paving the way for a graceful transition from fossil fuels based on "soft energy paths".
 - b. P130, Yoichiro Nambu of U.Chicago is honored for his work on symmetry between electromagnetism and the weak nuclear force. Spontaneous symmetry breaking is viewed as the key to understanding superconductivity that has the potential to create new electrical systems.
 - c. P132, Steven Chu (Energy Secretary) is honored for his candor on global climate change and knowledge of both physics and biology applied to energy problems.
 - d. P 136 Connie Hedegaard , Climate Change and Energy Minister of Denmark , who is deeply involved in the IPCC December meeting in Copenhagen is a key person in measuring and evaluating climate change. We need to look to her and the IPCC to plan our global warming mitigation strategies.
 - e. P 136, Daniel Nocera, (MIT chemist) was chosen for his work on room temperature catalysis of water using abundant materials like cobalt and phosphorus in the presence of sunlight to split water into hydrogen and oxygen based on catalyst breakdown emulating photosynthesis. This approach competes with cellulosic biomass and high temperature/pressure techniques.

4. Ref D provides current insights into carbon sequestration and the applications for myriad forms of carbon. Special local interest is associated with aerogels and nano-technology to electrically clean up marginal water.
5. Advanced technology Implications for the general plan: The BOS needs to establish creative environments for advanced development and have in place the tools for evaluating progress if government subsidization is required.