

Friday, July 10, 2009 (file cac225)

To: Dan Breedon

Fr: Ed Miller

Subj: Tax-energy linkage, estimating energy savings, CCD overview, wicked problems, & mosquito control

Ref A: Ed Mazra (UCSB), Architecture 2030 plan, Climate economic energy solution, Now it's personal, UCTV 7/8/09, 7-9PM

Ref B: J. Krigger/C. Dorsi, Homeowners handbook to Energy Efficiency, A guide to big and small improvements, Saturn Resource Management 2008

Ref C: M. Schacker, A spring without bees, How colony collapse disorder has endangered our food supply, The Lyons Press 2008

Ref D: R. Lucky, Wicked Problems, IEEE Spectrum, July 2009, p 27

Ref E: P. Fairly, Germany's Green Energy, IEEE Spectrum, July 2009, pp 40-48

Ref F: J. Hecht, Lasers, great and small, IEEE Spectrum, July 2009, p 4

Highlights and comments:

1. Per Ref A, UCSB is marching off to Washington to convince members of congress that a TARP mortgage buy down is a worthy enterprise. The scheme calls for as 2% mortgage rate for carbon neutral private residential new construction ranging up to 3% for 75 % reduction below code. The claim is made that 9 million jobs will be created, \$1 trillion dollars will be saved and coal can be eliminated as an energy source in 4 years.
2. Ref B provides a tool for estimating energy savings that supports Ref A and a good cross reference on resources.
3. Ref C provides a good overview of research on bee colony collapse disorder along with competing hypotheses and potential implications for public health related to chemicals introduced into the environment e.g. a high incidence of myasthenia gravis associated with use of neurologic pesticides.
4. Ref D discusses complex social, economic or organizational interactions that cannot be solved fully. True system costs, uncertainty and aggravation are common themes. Lucky is a humorous commentator on problems presented to engineers that can help loosen our thinking on both wicked and ordinary problems.
5. Ref E provides an overview of the practical problems in implementing renewable energy schemes that feature a turning away from nuclear energy.

6. Ref F describes an effort by Bill Gates to create a laser death ray for mosquitoes. This work is pioneered by people from Lawrence Livermore National laboratory and Lowell Wood a protégé of Edward Teller.