## Abstract Submitted for the NEF16 Meeting of The American Physical Society

Teaching Climate Change to Skeptics PAUL H. CARR, AF Research Laboratory Emeritus — An effective way of teaching climate change is to balance risk against reward (1). Climate change is already costing us (2). Wildfires, droughts, and refugees are increasing; storms becoming more violent; floods setting record heights; and glaciers melting. If we do nothing, it could cost \$1 trillion/year (2). Climate science tells us the risks. The stable climate for the last 10,000 years helped explode our population from  $3x10^6$  to  $7x10^9$ . Our carbon dioxide emissions are warming the earth via the greenhouse effect. At the present rate of CO2 increase, concentrations will reach 700 ppm by 2100. Millions of year ago, sea levels were 300 feet higher at 700 ppm. James Hansens prediction of a sea level rise of 7 feet by 2075 could, depending on the model parameter, range as high 17 feet. Predictions of massive flood losses for the worlds 136 largest coastal cities are US\$60 - \$63 billion per year in 2050 compared to \$6 billion in 2005. Failure to act could lead to global losses upwards of \$1 trillion annually (1).

REFERENCES: (1) Carmen Nobel, Teaching Climate Change to Skeptics Forbes. Sept 9, 2013. (2) H. Paulson, M. Bloomberg. www.riskybusiness.org

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