



January 25, 2010

CONCERNING CONNECTICUT FUND FOR THE ENVIRONMENT

1. Recognition of synergistic relationship of geothermal Heat Pumps with solar, wind and thermal solar electricity.
 - a. Recognition of presently available geothermal heat pumps with published (ISO13256) third party evaluation of efficiencies. Heating efficiencies of Coefficients of Performance (COP) = 4.5 to 5.1 and Energy Efficiency Ratios (EER) = 25 to 31
 - b. A geothermal heat pump with a COP 4.5 MULTIPLIES the effectiveness of a renewable energy source by four and one half times. One unit of renewable electricity produces 4.5 units of heat.
 - c. A geothermal heat pump with an EER of 28. Is two and one half times more efficient that the mandated Federal air conditioning efficiency – again an effective amplifier of renewable electricity.

2. Recognition of the THREE earth coupling methods available to the geothermal installation and design community. – viz
 - a. CLOSED LOOP
 - b. STANDING COLUMNS
 - c. OPEN (DOUBLET) to DIFFUSION

COMMENTS by WATER ENERGY DISTRIBUTORS, Inc.

Each method has advantages and disadvantages and are site specific. Each method has varying efficiency, cost, geologic sensitivity, long term geologic effects and other characteristics.

Attached to this email is a description of these advantages and disadvantages for the comments record. We utilize this document as a training aid for installers, design and evaluation disciplines.

- 3. Recognition that the design and subsequent installation of geothermal technology MUST include accurate FULL LOAD design. We note, with concern, that designing and installing geothermal heat pumps for part load, less than 100% heating, forces the electric utility to accommodate inefficient electric resistance heating in peaking periods. Thus creating an unwanted winter OR summer peak, reducing the utility's over all annual Load Factors. Supplementing with electric resistance is unnecessary and irresponsible use of electric energy.**

Attached to cover email – Technical Bulletin #33 – by WED Inc

Respectfully submitted,

Carl D. Orio, Chairman