Cork’s Bio

Howard ‘Cork’ Hayden, professor of physics emeritus in the Physics Department of the University of Connecticut, is editor of *The Energy Advocate*, a monthly newsletter promoting energy and technology.

A Colorado native, Dr. Hayden attended the University of Denver where he earned his B.S., M.S., and Ph.D. in Physics.

On receiving his Ph.D., he went to the University of Connecticut where he spent 32 years teaching and doing research. He did accelerator-based atomic physics, including measurements of cross-sections for various processes, measurements of energy loss in atomic collisions and of lifetimes of excited states, beam-foil spectroscopy, and ion implantation. He also performed a Trouton-Noble experiment that was 10 raised the fifth power times as sensitive as the original.

His research interests include ionic and atomic collisions, charge transfer, ionization, energy loss, energy-level crossings, ion-surface collisions, ion implantation, relativity considerations, and energy for society (fossil fuels, nuclear, hydro, wind, biomass, photovoltaics, and solar heating).

A specialist in atomic, optical, and molecular physics, Dr. Hayden wrote the above series of essays on Basic Climate Physics, meaning all-inclusive physics that pertains to the subject of climate. He uses the approach used by William van Wijngaarden and William Happer who used the high-resolution transmission molecular absorption database (HITRAN) to calculate the relative potency of greenhouse gas molecules for the five naturally occurring greenhouse gases – Water Vapor, Carbon Dioxide, Ozone, Nitrous Oxide, and Methane – in a cloud free atmosphere. This series is an extension of that work.

Dr. Hayden uses the numbers produced by the UN Intergovernmental Panel on Climate Change (IPCC) to establish an upper bound for calculations by climate modelers on temperature change from a doubling of carbon dioxide. Even though some may disagree with IPCC numbers, as Hayden does, there should be no disagreement with those numbers by climate modelers who follow IPCC procedures.