

THE REASON

The reason the use of fossil fuels must stop now is supported by four clearly interrelated topics involving sensitive environmental conditions, based on credible research.

First, Earth's primary on-board climate-controlling component is *carbon dioxide* (CO₂), a greenhouse gas that plays a major role in the regulation of weather and climate. At the start of the Industrial Revolution (IR) CO₂ was a miniscule 270 parts per million (0.027 percent) of the atmosphere. The 300 years of IR emissions from burning fossil fuels increased Earth's CO₂ level nearly 40 percent. The resulting increased ocean temperature impacts lower levels of the atmosphere, especially near the Equator, where the heat energy warms tropical air, creating hurricanes that move energy poleward. That triggers displacement of colder air near the poles that moves southward. The now increased temperature gradients as warm and cold air meet create more and more violent storms and heavy rainfall or widespread drought. The extent and rate of change threatens our continued existence on Earth.

Second, the *pattern* of a tiny percentage of the atmosphere's gas as an important climate and weather regulator is ubiquitous throughout our universe. There is a large and ever-growing amount of documentation of this pattern. It is characteristic of all environments, from atom to universe, including Earth's water, carbon, biota, solar system and planetary mass, energy, dark energy, dark matter, many human traits, and time. Thus, the pattern is a fundamental characteristic of Earth's ecology, and must be understood, celebrated, nurtured, and maintained.

Third, as the highest life form and user of plant life's plentiful oxygen, human beings are dependent on all Earth's life forms – *biodiversity* – for resistance to disease and as a highly variable organic base on which we depend for food, digestive, and waste disposal micro-organisms, and for plant pollination and aeration (water holding capacity) of soil. Plant life normally sequesters CO₂ (eventually in fossil fuels) but interim impacts include dissolution in the oceans, creating excess levels of carbonic acid (acidification) with attendant loss of coral reefs and phytoplankton on which all oceanic life depends. A major direct human activity involves loss of high diversity wetlands, rainforest, tundra, desert, sea ice, glaciers, and oceanic species and their environments. Making the situation worse is the fact that *Homo sapiens* is the most invasive of species meeting all criteria for invasiveness. We are obviously unable to control our own numbers, much less the exotics and inadvertently introduced species around the globe.

Fourth, *water* exhibits a particularly lopsided distribution in the pattern described above. It is the vehicle of energy exchange, and gaseous, nutrient, and waste disposal on the planet. Water is beyond our reach for management other than local supply control, and there we often ignore fundamental principles of ecology and hydrology, exacerbating our economic, hydrological, and natural resource and support system problems and challenges.

How can there be any doubt that we must stop the use of fossil fuels *immediately* or find an unailing technology for sequestering its Earth-poisoning output?

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