

## **DEFENDING "FOSSIL FUELS" AT QUEEN'S UNIVERSITY**

**The information contained herein was used to prepare a talk presented to a divestment committee at Queen's University, Kingston, Ontario – July 15, 2015. The topics covered are:**

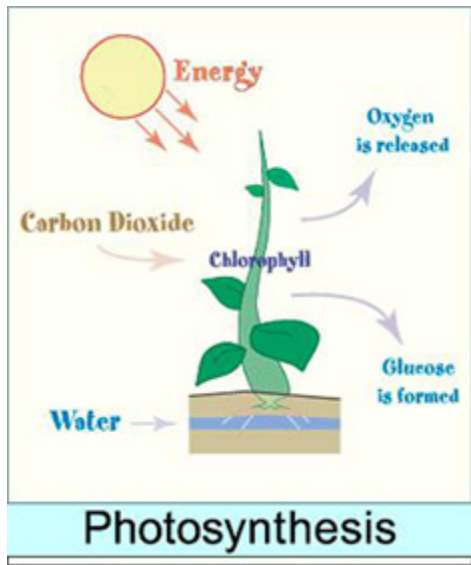
- **The importance of carbon dioxide in sustaining life on the planet**
- **The natural variability of climate – four (4) major climate cycles**
- **The flawed climate models**
- **History exonerates carbon dioxide**

**DEFENDING HYDROCARBON FUELS (aka "Fossil Fuels") - The exoneration of carbon dioxide ("CO<sub>2</sub>")!**

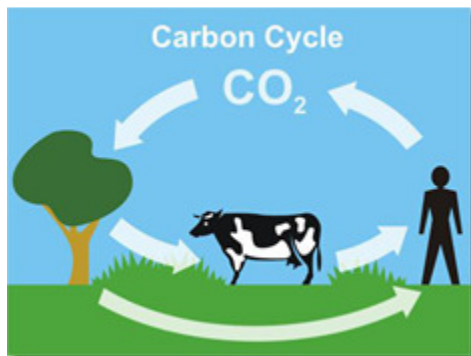
Some of my findings from an 8-year investigation pertaining to the validity of the anthropogenic, global-warming hypothesis are presented herein. Clearly, societies must not adopt policies based on an acceptance of the alarmist, global-warming (aka "climate-change") narrative.

The global-warming narrative suggests that our generation of carbon dioxide will cause runaway warming and that we can fight climate change by restricting the generation of this life-giving, trace gas. This belief is wrong and must be rejected when drafting legislation.

First, it must be emphasized that carbon dioxide is not a pollutant. The following figures show how CO<sub>2</sub> plays a vital role in producing oxygen and in greening the planet. Without CO<sub>2</sub> the planet would be a desert.



CO<sub>2</sub> is a vital part of the carbon cycle, which sustains life on the planet.

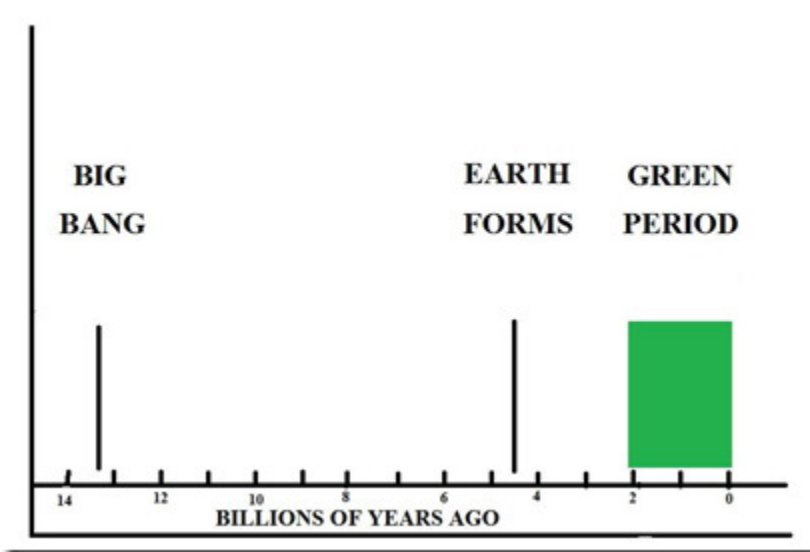


As a result of plant growth, the oxygen level reached the critical level to support terrestrial and marine life about 540 million years ago. However, we now live in a CO<sub>2</sub>-starved atmosphere primarily because of the natural sequestration of CO<sub>2</sub> to form carbonate rocks such as limestone. The CO<sub>2</sub> used to support plant and animal life is minuscule in comparison.

Second, it must be emphasized that the planet's climate has never been stable. Climate has been changing quite dramatically since the beginning of time and the reoccurring cold periods have been times of starvation and mass migrations. On the other hand, mankind has prospered during the intervening warm periods.

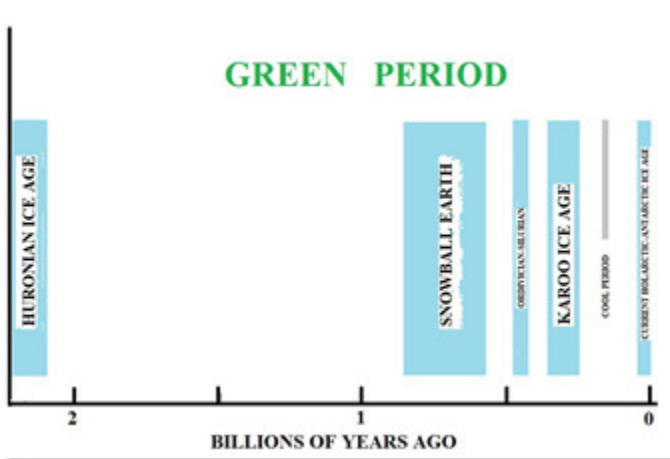
Let us now look at the history of the Earth, from the Big Bang to the Green Period.

## BIG BANG TO THE GREEN PERIOD



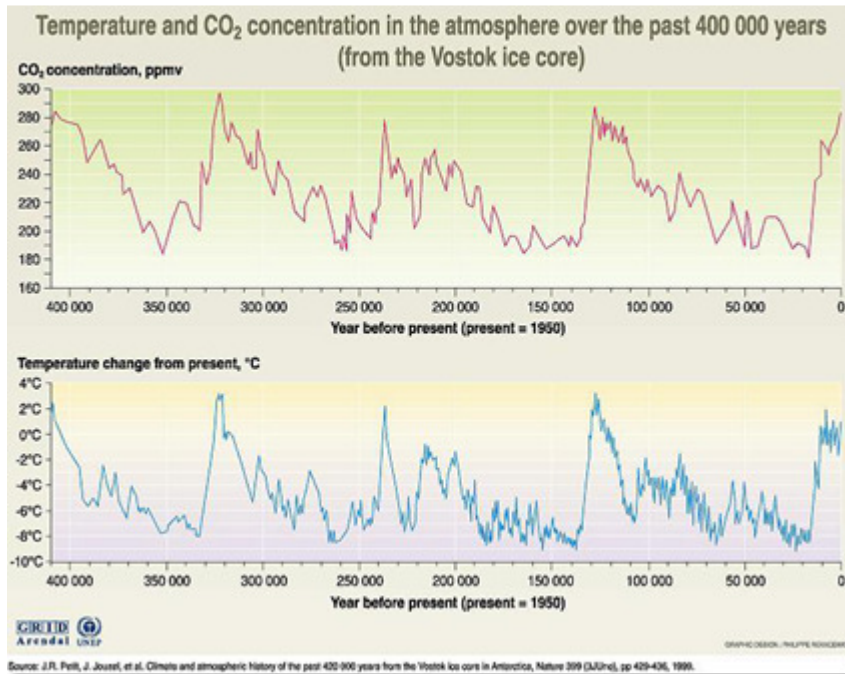
The following focuses on the variations of climate within the Earth's Green Period. At the beginning of this period, CO<sub>2</sub> levels may have been as high as 30%. To properly assess CO<sub>2</sub>'s role as a potential climate variable, it is necessary to become familiar with the natural variability of climate. Climate consists of cycles within cycles with at least four major cycles. The longest cycle is the ice-age cycle.

## ICE-AGE CYCLES DURING THE GREEN PERIOD



These ice-age cycles occur roughly every 144 million years. The current ice age, the Holarctic-Antarctic Ice Age, started in Antarctica about 35 million years ago. Antarctica is home to about 90% of the planet's ice. Glaciation of the Northern Hemisphere started about 2.7 million years ago. Each ice age consists of glaciation cycles.

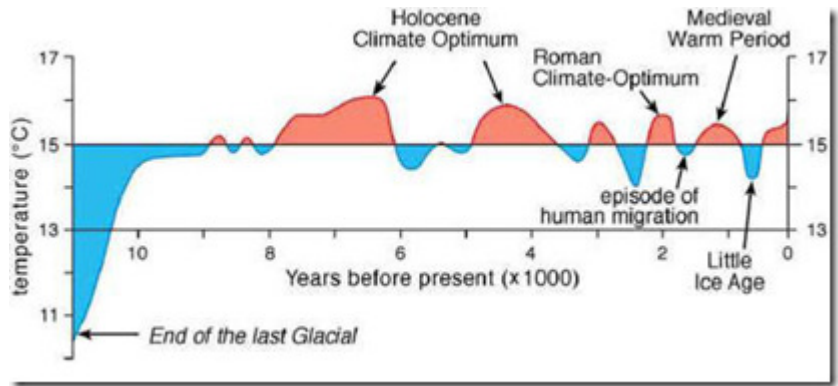
## GLACIATION CYCLES DURING THE HOLARCTIC-ANTARCTIC ICE AGE (~100,000-YEAR CYCLES)



The above figure shows the glaciation cycles for the last 400,000 years as a function of temperature and CO<sub>2</sub> level. Contrary to what Al Gore told us, temperature drives the CO<sub>2</sub> level. The valleys of the curves are periods when Canada is covered by a mile or two of ice and, because of increased ocean absorption, CO<sub>2</sub> is reduced dangerously close to the level at which plant growth ceases. A further reduction of 20% would turn the planet into a desert.

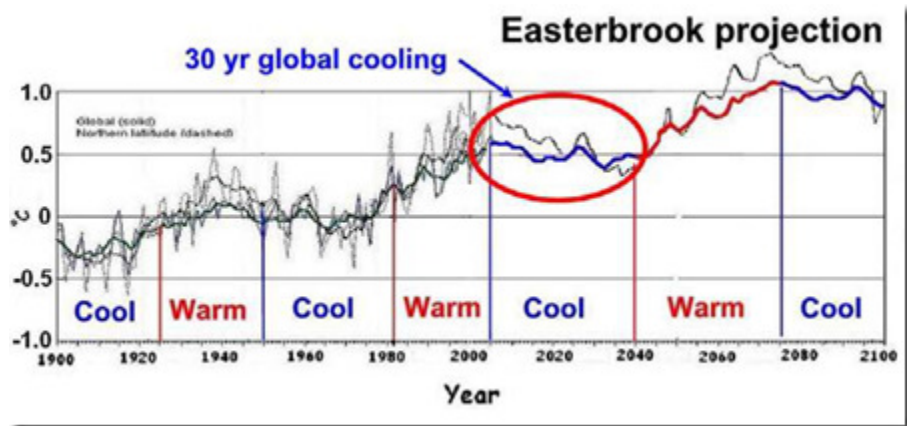
The 3rd climate cycle, roughly 800 to 1500 years, shows the current Modern Warm Period to be the coolest of the six warm periods since the last glaciation, the Wisconsin glaciation, also referred to as an "ice age".

## CYCLES DURING THE HOLOCENE INTERGLACIAL PERIOD



The shortest of the 4 climate cycles is the decadal cycle – 20 to 40 years.

### DECADAL CYCLES DURING THE MODERN WARM PERIOD



The last period of declining temperatures occurred from 1940 to 1976 and it was followed by a period of increasing temperatures, 1976 to 1998. The circled part of the graph is Professor Easterbrook's projection, which is confirmed in the next figure.

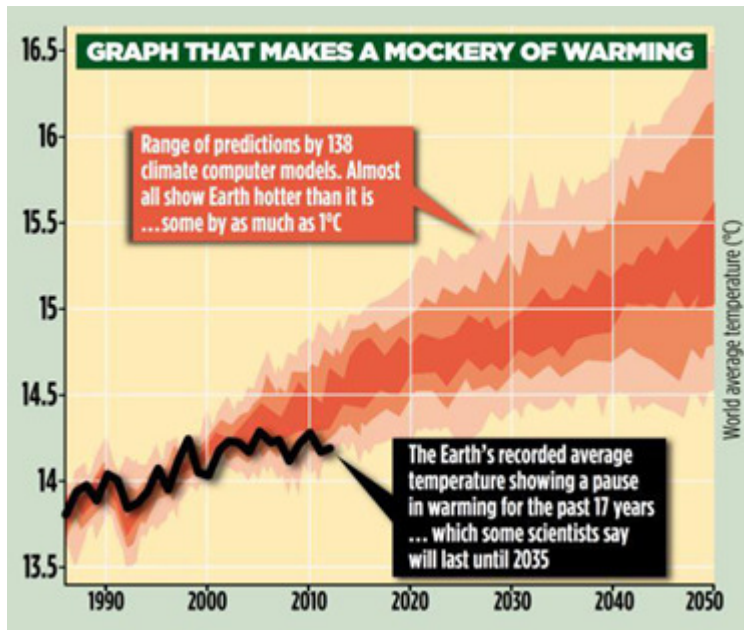


Global warming stopped more than 18 years ago.

Clearly, any observed climate changes since the generation of significant quantities of CO<sub>2</sub> (~1940) are well within natural variability. More important, no proof has ever been offered to demonstrate that CO<sub>2</sub> is suppressing or enhancing the natural variability of climate change.

The CO<sub>2</sub>-induced, global-warming narrative exists only in the mythical computer world of fatally-flawed, climate models, all of which failed to predict the current 18-year pause in global warming.

## COMPUTER CLIMATE MODELS VERSUS REALITY



Using these models, the UN (IPCC) bureaucrats have been warning us that a doubling of the CO<sub>2</sub> level could result in a temperature increase of as much as 5 degrees Celsius. These dire predictions have been scaled back to less than 2 degrees Celsius.

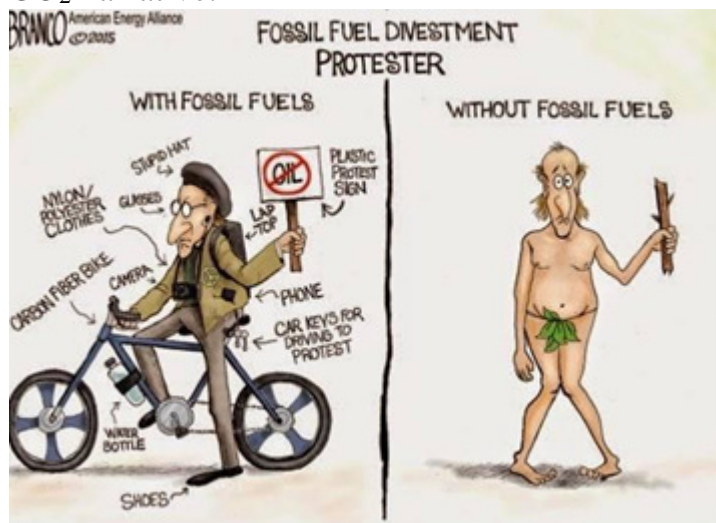
However, there are 2 further problems with these predictions, in addition to a failure to materialize.

First, historical records show that CO<sub>2</sub> levels have been much higher without any run away warming. In fact, very high levels have existed during previous ice ages.

Second, and most important, we cannot generate sufficient CO<sub>2</sub> to double the current level. Our oil and gas reserves would have to be 30 times larger to achieve such a doubling. Such a doubling would be highly desirable for crop production. Greenhouse operators triple the ambient CO<sub>2</sub> level.

Therefore, any debate regarding the alleged heat-trapping properties of CO<sub>2</sub> is irrelevant.

The idea that we can stabilize the planet's climate with a trace gas lacks any scientific merit. Such thinking is delusional and an example of mankind's arrogance. We must cherish carbon dioxide and, at the same time, we must denounce the alarmist, anti-CO<sub>2</sub> narrative.



Obviously, banning the use of fossil fuels will return us to an impoverished Medieval lifestyle and will result in significant social injury.

## CONCLUSIONS

- CO<sub>2</sub> IS NOT A POLLUTANT – IT IS PLANT FOOD;
- CLEARLY, CO<sub>2</sub> IS AS VITAL AS WATER AND OXYGEN IN SUSTAINING LIFE ON THE PLANET;
- THE CONSUMPTION OF ALL COAL, OIL, AND GAS DEPOSITS WILL NOT MATERIALLY REPLENISH OUR SEVERELY-DEPLETED STORE OF CO<sub>2</sub>; AND
- CO<sub>2</sub> HAS NEVER, AND WILL NEVER, OVERHEAT THE PLANET.

**Thorpe W. Watson, PhD**