

**Climate Change
and the Responsibility of Civil Society:
Some Biblico-Theological Aspects
of the Global Warming Debate**

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It is a great privilege for me to speak to this august body, and I am grateful to you, Cardinal Martino, for your invitation for one named Calvin to speak for a Vatican conference—but though I consider my name to be providentially given, perhaps you will take comfort from knowing that my parents named me not after John Calvin but after the late American President Calvin Coolidge.

I cannot hope to address the scientific aspects of the ongoing debate over climate change and climate change policy at the level of erudition of the scientists among us. I am a scientific layman who, in an effort to develop rational understandings of these issues, has read many books on the science of climate change, hundreds of refereed and non-refereed but scholarly articles, and thousands of popular articles. In light of those readings, I am persuaded, though I recognize my fallibility, that:

1. Foreseeable global warming will have moderate and mixed (not only harmful but also helpful), not catastrophic, consequences for humanity—including the poor—and the rest of the world’s inhabitants.
2. Natural causes almost certainly account for a large majority of global warming in both the last thirty and the last one hundred fifty years, which together constitute an episode in the natural rising and falling cycles of global average temperature. Human emissions of carbon dioxide and other greenhouse gases are probably a real but proportionally insignificant contributor to its causes.
3. Reducing carbon dioxide emissions would have at most an insignificant impact on the rate, quantity, and duration of global warming and would not significantly reduce alleged harmful effects.

4. Government-mandated carbon dioxide emissions reductions not only would not significantly curtail global warming or reduce its harmful effects but also would probably cause greater harm than good to humanity—especially the poor—and other species, while offering virtually no benefit. Among the harms it would likely cause are not only reduced economic development because of higher energy costs, harming especially the poor who desperately need economic development spurred by abundant and affordable energy, but also the withholding of the aerial fertilization effect of heightened CO₂ mentioned yesterday by Dr. Craig Idso. A knock-on effect of losing this CO₂ fertilization effect would be the necessity of farming more land to feed humanity than would otherwise be needed, adding to stress on biodiversity.
5. In light of all the above, the most prudent response is not to try (almost certainly unsuccessfully and at enormous cost) to prevent or reduce whatever slight warming might really occur. It is instead to prepare to adapt by fostering means that will effectively protect humanity—especially the poor—not only from whatever harms might be anticipated from global warming but also from harms that might be fostered by other developments, including global cooling (which will certainly come in time).

I have co-authored a paper that summarizes extensive scientific and economic evidence for this perspective, “A Call to Truth, Prudence, and Protection of the Poor: An Evangelical Response to Global Warming,” printed for you here and available online at www.interfaithstewardship.org. I prepared the paper with three co-authors—climatologist Dr. Roy Spencer, senior research scientist at the University of Alabama at Huntsville and formerly of NASA, who is one of two scientists in charge of the US satellite remote temperature sensing program (the other being John Christy, another critic of AGW dogma); environmental economist Dr. Ross McKittrick, of the University of Guelph in Ontario, Canada, who is famous for his work refuting the “hockey stick” graph of Michael Mann and associates; and Paul K. Driessen, an energy policy analyst with the Congress of Racial Equality. Others in this gathering, however, have already ably discussed the science and, to some extent, the economics, so, speaking as a believing Christian, I shall focus on two other matters: some Biblico-theological considerations that should guide our understanding, and the impact of climate policy on the most vulnerable people among us.

Biblico-Theological Foundations—Part I

So, first, let me begin with some Biblico-theological considerations, and as a preliminary, let me defend their legitimacy in principle. Many in today’s modernist and postmodernist world think it is illegitimate for theological principles to guide interpretation of scientific data. Yet that belief is itself theological and is therefore self-refuting. Ironically, those who rule out Biblico-theological matters from scientific discussion are acting in the very unscientific manner of turning a blind eye to some data. In contrast, Christians, recognizing the Bible as the Word of God written, must take its statements as part of the data they consider. That is, the consistent Christian must take *more* data into account than does the non-Christian. There is no neutrality. Everyone undertakes his studies presupposing either the relevance or the irrelevance of Biblico-theological data, and the Christian need not be embarrassed to think them relevant.

Although many might be addressed, I shall limit myself to just three Biblico-theological concerns at the start, the doctrines of creation and providence, and the virtue of humility. I shall raise onemore as my conclusion.

Consider the doctrine of creation. The Bible teaches that our wise Creator made a magnificent creation and, when finished, pronounced it “very good” (Genesis 1:31). In contrast, a common theme of almost all environmental writings is that the Earth is fragile. That certainly is a central assumption of the dogma of manmade global warming alarmism. The dogma tells us that exceedingly tiny changes in atmospheric chemistry cause changes in global average temperature so great as to have catastrophic effects on humanity and the rest of the environment. But think about that for a moment. Does a wise engineer design a system so that the tiniest change can throw it into irreversible, chaotic degradation? Certainly not. He designs it with positive and negative feedback mechanisms that balance each other out and maintain not perfect equilibrium but something tolerably close to it. It is far more consistent with the Biblical doctrine of creation to think God has so designed the Earth than to think He made it so that tiny fluctuations in atmospheric chemistry can threaten human civilization and life itself.

Now consider the doctrine of providence, and here I make reference to two passages in the Bible that bear specifically on some of the greatest fears associated with global warming alarmism.

In Genesis 8:21-22, after the Flood, God said, “While the earth remains, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.” This is an example of a poetic device called merism, in which contrasting extremes denote the whole range of something. Here God promised Himself—and His promise cannot fail—that seedtime and harvest, cold and heat, summer and winter, day and night shall not cease. That is, the cycles necessary for human beings and other life on Earth to thrive will continue as long as Earth abides. For Christians, this should raise the level of evidence required to persuade us that manmade greenhouse gases and other emissions will stop or seriously harm the cycles on which life depends—as the poetic device implies, not only the cycles of seedtime and harvest, cold and heat, summer and winter, and day and night, but also, e.g., of the North Atlantic Decadal Oscillation, the Thermohaline Circulation, the Pacific Multidecadal Oscillation, and the El Nino/La Nina cycles. This does not mean we should ignore scientific evidence, but it does give us a prior assumption in interpreting it.

Again, in Psalm 104:6-9, the psalmist, inspired by the Holy Spirit, tells us what God did to land and sea during and after the Flood: “You covered [the land] with the deep as with a garment; the waters were standing above the mountains. At Your rebuke they fled, at the sound of Your thunder they hurried away. The mountains rose; the valleys sank down to the place which You established for them. You set a boundary that they may not pass over, so that they will not return to cover the earth.” This is a summary of God’s promise in the covenant with Noah after the Flood, recorded in Genesis 9:9-17, and reflected in His challenge to Job:

. . . who enclosed the sea with doors when, bursting forth, it went out from the womb; when I made a cloud its garment and thick darkness its

swaddling band, and I placed boundaries on it and set a bolt and doors, and I said, “Thus far you shall come, but no farther; and here shall your proud waves stop”? [Job 38:8-11]

One of the greatest fears connected with global warming is of rising sea levels inundating low-lying populated areas and forcing mass migrations. Again, while our reading of these passages does not justify utter disregard of scientific debates about sea level, the arguments that sea level rise is more likely quite small than quite large are more consistent with these data than vice versa. I am not suggesting that everyone should accept my interpretation and application of these passages. There is room for hermeneutical disagreement. But Christians certainly cannot in good conscience simply ignore passages like these, which certainly appear *prima facie* to be relevant to the discussion. Those who, in considering these issues, ignore these passages deprive themselves of the input of the inspired Word of God when they ought instead to study it and believe it. Finally, let me refer just briefly to humility. In re-reading Job 38 this morning, first of those marvelous chapters in which God challenges Job to explain creation, I was reminded of the awe I felt as I read the discussion of the limits of human understanding inherent in turbulent fluid dynamics in Christopher Essex and Ross McKittrick’s *Taken By Storm* and more recently Henrik Svensmark and Nigel Calder’s just-released *The Chilling Stars: A New Theory of Climate Change*. These books express in elegant scientific terms what the author of Job put in poetic terms: that there are mysteries that defy human comprehension—that indeed as the boundaries of our understanding grow, so do the boundaries of our ignorance. Such realizations should provoke a humble recognition in every one of us that we might be wrong.

The Impact of Climate Policy on the Poor

Now let me turn to my second major topic, more in keeping with the title assigned me, climate change and the responsibility of civil society: the impact of climate policy on the poor. In doing so, I am not turning away from Biblico-theological considerations but focusing on one particular one that binds all, regardless of our interpretation of those passages that seem specifically to address global climate concerns: the Christian faith’s insistence that all acts must be judged in light of their effects on the most vulnerable among us. The Apostle Paul reported that the leaders of the church asked him to remember the poor and added that this was “the very thing [he] was eager to do” (Galatians 2:10). When we consider what policies to pursue in response to climate change, we, too, must first of all remember the poor.

I believe a policy to reduce future global warming by capping carbon dioxide emissions would be economically devastating to the world’s poor—a point made by Ambassador Estrada Oyuela. Because energy is an essential component in economic production, reducing its use and driving up its costs—often reducing its use *by* driving up its costs—will slow economic development in poor communities, reduce overall productivity, and increase costs of all goods, including the food, clothing, shelter, and other goods most essential to the poor.

It is a common claim of many supporters of such a policy that those who oppose it do so only because they want to continue a profligate way of living. Let me make this perfectly clear.

Although I think such a policy is bad science and bad economics, I care little about its effect on the wealthiest countries of the world. If United States GDP per capita growth rate were reduced by a half a percentage point or so in the quixotic quest to fight global warming, the effect on Americans would be a minor adjustment at the margin of our opulence. Ho hum. But to raise the cost and reduce the availability of energy to the world's poor is unconscionable. It would prolong for decades or generations the high rates of illness and premature death that are the inevitable accompaniments of poverty.

One of the ways in which a CO₂ emissions reduction policy would hurt the poor is simply by diverting vast resources away from more helpful endeavors. How vast? The worldwide cost of full compliance with just the first step of the Kyoto Protocol would likely be from \$200 billion to \$1 trillion in constant dollars *every year* from 2001 through 2050. That means combined costs of \$10 trillion to \$50 trillion. The temperature reductions purchased would be trivial. According to climatologist, global warming alarmist, and Kyoto supporter Tom Wigley, "Global mean reductions [in warming by 2100] for the three scenarios [considered by the IPCC] are small, 0.08-0.28°C." Others are not so optimistic. University of Virginia climatologist Patrick Michaels estimated that "the Kyoto Protocol . . . , if adhered to by every signatory (including the United States)[,] would only reduce surface temperature by 0.07° C in fifty years." In either case, the temperature reduction is so tiny as to disappear in annual fluctuation and have no significant impact on consequences. As a result, Kyoto's supporters also say it is just a first step—that we shall need many more such treaties. National Center for Atmospheric Research scientist Jerry Mahlman says elimination of human-induced warming would require "forty successful Kyotos." Others say thirty. That forces us back to counting costs again. The annual cost of *twenty* "Kyotos" would be \$4 trillion to \$20 trillion, or about 9 percent to 45 percent of present annual gross world product. The cost for the full fifty years of \$200 trillion to \$1 quadrillion.

As shown by the Copenhagen Consensus and other studies, other investments of the costs of mitigation would be of much greater benefit. It would cost a one-time investment of only about \$200 billion, and a much smaller amount annually after that, to provide clean drinking water and sanitation to everyone in the world who doesn't already have them. But if we spend \$200 billion to reduce carbon emissions, we can't spend that money to provide drinking water and sanitation to the world's poor. But providing those two simple services would prevent, according to the World Health Organization, two to three million premature deaths and about half a billion serious illnesses every year.

What the world's poor most need is not the hypothetical and probably never-to-be-achieved reduction of future global warming by a tiny fraction of a degree but economic development to make affordable the amenities we take for granted. Affordable, plentiful energy is an indispensable condition of that economic development. But forced carbon dioxide emission reductions would push energy prices upward, making everything produced and transported with energy—which is literally *everything* our economies produce—more expensive. Thus the policy would prolong the suffering of the world's poor, who, for instance, are forced to use wood and dried dung as their principal fuels for cooking and heating—causing indoor air pollution that the World Health Organization estimates causes some 1.6 million premature deaths and many more

millions of serious respiratory diseases, mostly among women and children, every year. Providing electricity to their homes would help not only them but also other species, for they would then no longer need to speed deforestation and habitat loss in their quest for firewood. It would also enable them sooner to refrigerate food, reducing spoilage and consequently disease caused by consuming spoiled foods and hunger caused by throwing them away. Likewise, investing to improve their crop yields would not only reduce their suffering from hunger but also reduce the need for crop land, again reducing habitat destruction and thus pressure on species survival.

Poor countries have every right to develop their economies, ultimately creating greater environmental awareness and reaching an improved economic and technological ability to achieve greater energy efficiency, pollution control, and environmental improvement. Similarly, developed nations have a duty to refrain from imposing restrictions that would make it harder for them to do so. Only in this way can both human and ecological goals be met.

Biblico-Theological Consideration—Part II

I could go on to address a variety of concerns about how the debate is carried on. As a logic teacher, I am regularly grieved by the illogic often apparent in alarmists' arguments (e.g., *non causa pro causa*, correlation taken for causation, consensus rather than data and explanation in science, *argumentum ad verecundiam*, and *argumentum ad hominem*, etc.). I could discuss the need for charity and mutual respect, or the misuse of arguments from prudence by resting them on a *petitio principii* of the reality, magnitude, and negative impacts of manmade warming, or the sad tendency for people to reach conclusions before carefully examining counter-arguments—and then to ignore the counter-arguments or even to declare flatly that they don't exist (which makes me wonder who slipped me the drugs that caused all my hallucinations when thought I was reading such counter-arguments). I could point to problems of media exaggeration and sensationalism. I could talk of unintended consequences, e.g., ethanol production in US pushing up beef and pork prices for Americans and, much worse, corn and therefore tortilla prices in Mexico. But time is limited. Let me turn therefore to one last theological point.

Psalm 19 tells us that the heavens declare the glory of God, the firmament shows His handiwork. Although natural revelation, the creation, cannot reveal the gospel by itself, having learned the gospel from the Bible, we can see analogies, types, of redemption in the created order. Paul did this when in 1 Corinthians 15 he compared the resurrection of Christ, and the general resurrection, to the planting and sprouting of seeds.

I want to conclude by tying theology and science together, adapting Paul's typological/analogical method to the debate over carbon dioxide and climate change. Every doubling of carbon dioxide concentration in the atmosphere brings an average 35 percent increase in plant growth efficiency. Now, where does the added carbon dioxide come from? It comes mostly from our burning fossil fuels, especially coal and petroleum. Where do they come from? We dig or pump them up out of the ground. But how did they get there? They are the remains of trillions of plants and animals, buried deep under layers of sediment and transformed by pressure and heat.

According to both the Bible and sound science, the great pools of oil and veins of coal formed from sudden, simultaneous deposits of vast numbers of plants and animals in a great geological cataclysm—what Christians recognize as the Flood of Noah’s time. That flood was an exercise of God’s judgment on sin.

Think about it: God condemns the world for mankind’s sin. Plants and animals die. They are buried. We remove them from the ground, refine them, and burn them to provide energy for all our economic activities—to produce all the goods and services that enhance our lives. In the process, we release carbon dioxide that has been stored in them. The carbon dioxide enhances plant life. Since plants are at the bottom of the food chain, that means it enhances all other life, too.

Sound familiar? Something dies, is buried, is raised up from the dead, and gives life. Haven’t you heard that before? Yes! Jesus Christ died under God’s judgment, not for His sins but for ours; He was buried; He rose again from the dead. Listen to how the Apostle Paul put it in 1 Corinthians 15:42-45. In the resurrection, the human body, particularly the body of our Lord,

is sown a perishable body, it is raised an imperishable body; it is sown in dishonor, it is raised in glory; it is sown in weakness, it is raised in power; it is sown a natural body, it is raised a spiritual body. If there is a natural body, there is also a spiritual body. So also it is written, “The first man, Adam, became a living soul.” The last Adam became a life-giving spirit.

This is the gospel that is the power of God for salvation to everyone who believes (Romans 1:17). The carbon cycle is a *type* of that gospel. Paul argued typologically about the resurrection. The resurrection is typified in the sowing of seed: it falls into the ground, apparently dead and rotting, but it springs up in new life. So also in the carbon cycle we have a picture, a *type*, of the redeeming work of Christ: Christ died, was buried, and rose from the grave to give life. Analogously, plants and animals died, were buried, and now, raised from the grave, they, too, give life. The sad irony is that millions of people *fear* what should lead them instead to *praise* God. Added carbon dioxide from fossil fuels isn’t *pollution*; it’s part of the *solution* to human poverty and to the thriving of the whole Earth.

How will we respond to this good news—this typological “gospel” of the beneficial effects of enhanced carbon dioxide on all earthly life? It is not, of course, to be confused with the saving gospel of justification by faith exemplified by Abraham, who “believed God and it was credited to him for righteousness” (Romans 4:3). But it is good news of its own sort. It is a remarkable type of the gospel of Christ’s redeeming death, burial, and resurrection. Will we doubt and reject it? Or will we follow the pattern of Abraham, the father of all who believe, by believing it?

Suggested Readings

E. Calvin Beisner (environmental ethicist), Paul K. Driessen (energy policy analyst), Ross McKittrick (environmental economist), and Roy W. Spencer (climatologist), “A Call to Truth, Prudence, and Protection of the Poor: An Evangelical Response to Global Warming,” and “An Open Letter to the Signers of ‘Climate Change: an Evangelical Call to Action,’ and Others Concerned About Global Warming,” at www.cornwallalliance.org. The “Call to Truth” contains extensive scientific evidence and documentation and is endorsed now by 149 leaders, including many climatologists, meteorologists, and other climate scientists, environmental and developmental economists, plus theologians, pastors, and leaders in Christian education and missions.

E. Calvin Beisner, “Important Developments on Global Warming in 2006,” also at www.cornwallalliance.org.

E. Calvin Beisner, Paul K. Driessen, and Roy W. Spencer, “An Examination of the Scientific, Ethical, and Theological Implications of Climate Change Policy,” also at www.cornwallalliance.org.

Christopher Essex (mathematician/physicist specializing in climate physics) and Ross McKittrick (environmental economist), *Taken By Storm: The Troubled Science, Policy and Politics of Global Warming* (Toronto: Key Porter Books, 2002; second edition forthcoming, April 2007). This is *the best* book I know for understanding the science of the global warming debate—thrilling reading.

D. James Kennedy and E. Calvin Beisner, *Overheated: a Reasoned Look at the Global Warming Debate* (Ft. Lauderdale, FL: Coral Ridge Ministries, 2007). *Truths that Transform* radio interview transcript, basic overview of the controversy and reasons for the view presented in this lecture.

Patrick J. Michaels, *Meltdown: The Predictable Distortion of Global Warming by Scientists, Politicians, and the Media* (Washington: Cato Institute, 2005). Clear and understandable.

Patrick J. Michaels, ed., *Shattered Consensus: The True State of Global Warming* (Lanham, MD: Rowman & Littlefield, 2005). Chapters by specialists show that the best science destroys the vaunted “consensus” on catastrophic human-induced global warming.

S. Fred Singer and Dennis T. Avery, *Unstoppable Global Warming: Every 1,500 Years* (Lanham, MD: Rowman & Littlefield, 2006). An amazing, kaleidoscopic review of vast arrays of evidence for superimposing cycles of warming and cooling throughout geologic and human history the implication of which is that current and foreseeable warming is well within bounds of natural variability.

Henrik Svensmark and Nigel Calder, *The Chilling Stars: A New Theory of Climate Change* (UK: Icon Books, 2007). Presents evidence and explanation for the theory that variations in solar magnetic wind are the principal driver of climate change.