

**Climate Policy:
Theological, Scientific, and Economic Considerations**

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by E. Calvin Beisner, Ph.D.
National Spokesman, The Cornwall Alliance for the Stewardship of Creation

I'm grateful to James Taylor, Joe Bast, and the Heartland Institute for asking me to speak. My remarks today in part abridge, condense, and supplement what the Cornwall Alliance has said in a 76-page interdisciplinary research paper we published last December, [*A Renewed Call to Truth, Prudence, and Protection of the Poor: An Evangelical Examination of the Theology, Science, and Economics of Global Warming*](#), the product of nearly 30 leading evangelical theologians, scientists, and economists. I invite you to read the whole paper at our website, www.CornwallAlliance.org. However, in light of comments earlier in this conference by Joe Bast, who referred to Mike Hulme's "four myths" common to environmentalism, I revised this talk last night to focus on an issue I believe is fundamentally important to the worldwide discussion of climate change, an issue that we must understand if we are to hope to resolve the intellectual, political, and values conflicts that so polarize us. So, after a very brief summary of our findings in *A Renewed Call to Truth*, I shall turn to a discussion that properly addresses the philosophy and even the theology of science.

Introduction

The world is in the grip of an idea: that burning fossil fuels to provide cheap, abundant energy is causing global warming that will be so dangerous that we must stop it by reducing our use of fossil fuels, no matter the cost.

Is that idea true?

We believe not.

Our examination of theology, worldview, and ethics, led by Dr. Craig Mitchell, theologian and assistant professor of ethics at Southwestern Baptist Theological Seminary, finds that global warming alarmism wrongly views the Earth and its ecosystems as the fragile product of chance, not the robust, resilient, self-regulating, and self-correcting product of God's wise design and powerful sustaining. It both rests on and promotes a view of human beings as alien threats to Earth's flourishing rather than the bearers of God's image, crowned with glory and honor, and given a mandate to act as stewards over the Earth—filling, subduing, and ruling it for God's glory and mankind's benefit. It wrongly assumes that the environment can flourish only if humanity forfeits economic advance and prosperity. And in its rush to impose draconian reductions in greenhouse gas emissions, it ignores the destructive impact of that policy on the world's poor.

The providence and promises of God inform a Christian understanding of creation stewardship, helping to avert irrational or exaggerated fears of catastrophes—fears that are rooted, ultimately, in the loss of faith in God and an exaggerated sense of human power to effect comprehensive transformations of the fundamental physical systems of the planet. Those who do trust God are able to assess and respond to risks rationally. God's wisdom, power, and faithfulness justify confidence that Earth's ecosystems are robust and will by God's providence accomplish the purposes He set for them.

Policies intended to reduce global warming by reducing the use of fossil fuels, currently the most abundant and affordable alternatives to dirty fuels like wood and dung, which are now used by 2 billion people and cause millions of deaths and hundreds of millions of illnesses from respiratory diseases contracted by breathing their smoke, would hurt the world's poor. Insisting on the use of more expensive alternative fuels because of global warming fears means depriving the poor of the abundant, affordable energy they need to rise from abject poverty and its attendant miseries. Such policies fail both moral and prudential tests.

Our examination of the science of global warming, led by Dr. Roy W. Spencer, principal research scientist in climatology at the University of Alabama, Huntsville, and lead scientist on NASA's Aqua Satellite remote sensing project as well as a plenary speaker for this conference, finds that global warming alarmism wrongly claims that recent temperature changes have been greater and more rapid than those of the past and therefore must be manmade, not natural. It exaggerates the influence of manmade greenhouse gases on global temperature and ignores or underestimates the influence of natural cycles, particularly the influence of ocean current cycles on cloud formation, and confuses cloud feedback with cloud forcing, reversing cause and effect. Earth's climate is less sensitive to the addition of CO₂ than the "scientific consensus" claims it to be, which means that climate model predictions of future warming are exaggerated. Specifically, instead of a likely 3°C increase in global average temperature from doubled effective atmospheric CO₂ concentration, a result that would require strongly positive net feedbacks, we believe the best empirical research on feedbacks shows them to be strongly net negative, eliminating about 58 percent of greenhouse warming, resulting in only about 0.5°C warming from doubled CO₂. AGW alarmism mistakenly takes the output of computer climate models as evidence when it is only predictions based on hypotheses that must be tested by observation. It falsely claims overwhelming scientific consensus in favor of the hypothesis of dangerous manmade warming and then falsely claims that such consensus proves the hypothesis and justifies policies to fight it. It seeks to intimidate or demonize scientific skeptics rather than welcoming their work as of the very essence of scientific inquiry: putting hypotheses to the test.

In contrast to AGW alarmism, we believe that, given that CO₂ in the atmosphere is necessary for life on Earth to exist, and every doubling of its concentration yields an average 35 percent increase in plant growth efficiency, more CO₂ will be beneficial. This is rarely discussed because many environmental activists share the quasi-religious belief that everything mankind does hurts the environment.

Our examination of the economics of global warming alarmism, led by Dr. G. Cornelis van

Kooten, professor of economics and research chair in environmental studies and climate at the University of Victoria, finds that it exaggerates the harms from global warming and ignores or underestimates the benefits not only from warming but also from increased atmospheric carbon dioxide. It grossly underestimates the costs and overestimates the benefits of policies meant to reduce carbon dioxide emissions. It exaggerates the technical feasibility (primarily by ignoring the basic physics of power density and energy density) and underestimates the costs of alternative fuels to replace fossil fuels in providing the abundant, affordable energy necessary for wealth creation and poverty reduction. It ignores the urgent need to provide cleaner energy to the roughly 2 billion poor in the world whose use of wood and dung as primary cooking and heating fuels causes millions of premature deaths and hundreds of millions of debilitating respiratory diseases every year. It fails to recognize that the slowed economic development resulting from its policies will cost many times more human lives than would the warming it's meant to avert—even assuming that the predicted warming comes about.

Let me expand just a little bit on the problem of renewables. Granted the basic physics of energy sources, the likelihood that renewables will ever replace fossil fuels and nuclear is slim to vanishing. As energy expert Robert Bryce points out in his newly published book *Power Hungry: The Myths of "Green" Energy and the Real Fuels of the Future*, every energy source must be judged in terms of four imperatives: power density, energy density, scale, and cost. Time permits me to comment only on the first, power density—the “energy flow that can be harnessed from a given unit of volume, area or mass.” The power density of an oil well producing only about 10 barrels per day or of a marginal natural gas well is about 27 or 28 Watts per meter squared, respectively, and of a nuclear power plant like the South Texas Project, even accounting for the full 19 square miles of its site, not the much smaller power plant itself, is about 56 W/m². But the power density of corn ethanol is about 0.05 W/m², of wind at best about 1.2, and of solar at best about 6.7—and wind and solar are also intermittent. “Simple math,” [writes Bryce](#), “shows that a marginal gas or oil well has a power density at least 22 times that of a wind turbine while a nuclear power plant has a power density that is more than 8 times that of a solar photovoltaic facility.” This fundamental bit of physics implies that renewables will necessarily also fail to meet the standards of fossil fuels and nuclear in the other three imperatives: energy density, scale, and cost.

Policy Inference

In light of all of these and many more considerations—theological, scientific, and economic—discussed in the full paper, the Cornwall Alliance recommends against mandated reductions on CO₂ emissions and for the promotion of economic development and targeted problem solving (e.g., disease reduction and nutrition enhancement) as a means to fortify people the world over—especially the poor—against material threats to their well-being, whether from climate change or anything else.

On the basis of this document, the Cornwall Alliance has issued [An Evangelical Declaration on Global Warming](#), which was endorsed by over 500 people within just over a month after its release in December, including [over 150](#) prominent evangelical theologians, pastors, ministry leaders, scientists, and economists. I invite you to join in endorsing the *Evangelical Declaration on Global*

Warming, which you can do at www.CornwallAlliance.org, or on a sign-up sheet held by my colleague Quena Gonzalez or at our booth in the exhibit hall.

The Underlying Problem: The Revolt Against Reason

Sunday evening, Joe Bast referred briefly to what Mike Hulme, founding director of the Tyndall Centre and Professor of Climate Change (note that title—not of climate, but of climate change) at the University of East Anglia, home of the Climatic Research Unit, of Climategate infamy, called “Four Myths” common to environmentalism: Lamenting Eden, Presaging Apocalypse, Reconstructing Babel (promoting technology as the solution to all problems), and Celebrating Jubilee. Keep in mind that Hulme mentored Phil Jones and many other leading “climate scientists.”

Don’t let Hulme’s calling these “myths” mislead you. He doesn’t mean to denigrate them as false. He means to highlight their culture-shaping power, whether true or false. Lamenting Eden is the tendency of environmentalists to hark back to a golden age, an age before humanity transgressed its bounds and began to harm the perfect paradise that was the Earth. Presaging Apocalypse is their tendency to look forward—sometimes with fear, sometimes with ghoulish delight—to the time when the offended Gaia will take its revenge on humanity through ecological collapse. Reconstructing Babel is what environmentalists accuse humanity of doing through the development of technology and urbanization. And Celebrating Jubilee is their pursuit of “ecojustice” (codespeak for wealth redistribution to achieve the equality of wealth that all people are due). It is immediately clear that these are all religious elements, reflecting, but twisting, the Biblical heritage, right down to the mistaken appeal to the Jubilee (which in Leviticus 25 did not require redistribution of wealth but the return of what was effectively productive collateral for a loan when it was paid off). It’s important to note that Hulme, a “scientist,” promotes these religious ideas in the name of environmental science.

Joe Bast’s reference to Hulme’s four “myths” speaks particularly to me. Understand that while I have read scores of books and thousands of articles on climate change, I am foremost a theologian/philosopher/historian/economist, and this kind of thing is my red meat (or for the vegetarians among you, my soy meal). I could analyze and refute each of these from a Biblical, Christian perspective, but for time’s sake I want to go to the root of Hulme’s migration from science to pseudo-religion. It is to be found in his commitment to something called post-normal science, about which a question was asked during our breakfast session this morning. The quick answer given there referred to Stephen Schneider’s well-known willingness to exaggerate to motivate action, but post-normal science goes far beyond that. It is a philosophically sophisticated epistemological construct and must not be underestimated. Until we understand its influence in the AGW alarmist community, climate realists and climate alarmists will continue talking past each other.

It cannot have been lost on many climate realist scientists that the “debate” over the “science” of climate change has been characterized by some strange tactics, such as demonization of dissent, distrust of attempts at replication, rejection of openness and data sharing, and appeal to consensus. As Climategate and other transgressions of fundamental scientific procedure by global warming alarmists continue to unfold, it becomes increasingly clear that a great deal of what’s been called

“climate science” isn’t science at all. It’s ideological propaganda, often religious (but certainly not Biblical), masquerading as science.

In a blog post last November titled “[Climate Change and the Death of Science](#),” before Climategate broke into the news, British blogger Kevin McGrane demonstrated from their own words that some key climate alarmists knew and admitted that they were no longer doing science but politics. I discussed the matter myself on Cornwall’s blog in the article “[Wanted for Premeditated Murder: How Post-Normal Science Stabbed Real Science in the Back on the Way to the Illusion of ‘Scientific Consensus’ on Global Warming](#).”

McGrane explained how science got hijacked by post-normal science along the hurried way to the “overwhelming scientific consensus” on manmade global warming. He pointed out that Hulme is himself a devotee of post-normal science, a proponent of it along with Oxford philosopher of science Jerome Ravetz, and therefore a traitor to real science.

McGrane quoted Eva Kunseler, herself an advocate of post-normal science and therefore not to be suspected of presenting it in a bad light, as distinguishing normal science from post-normal science this way:

Normal science

[Normal] Science is a logic inductive process leading to theory formulation, while all the way put through critical tests that have been deductively derived from the theory; Popper’s critical rationalist concept of science is an objective progression toward the truth. . . . The term normal science refers to the routine work of scientists within a paradigm; slowly accumulating knowledge in accord with established theoretical assumptions. . . . The paradigm is enlarged and frontiers of knowledge and techniques pushed forward.

The exercise of scholarly activities is defined by the dominance of the Mertonian CUDOS norms of science. They include:

- (C)ommunalism – the common ownership of scientific discoveries, according to which scientists give up intellectual property rights in exchange for recognition and esteem;
- (U)niversalism – according to which claims to truth are evaluated in terms of universal or value-free criteria;
- (D)isinterestedness – according to which scientists are rewarded for acting in ways that appear to be selfless;
- (O)rganized (S)kepticism – all ideas must be tested and are subject to structured community scrutiny.

Post-normal science

[still quoting Kunseler] A new concept of science was introduced by Funtowicz and Ravetz during the 1990s The concept of post-normal science goes beyond the traditional

assumptions that science is both certain and value-free The exercise of scholarly activities is defined by the dominance of goal orientation where scientific goals are controlled by political or societal actors Scientists' integrity lies not in disinterestedness but in their behaviour as stakeholders. Normal science made the world believe that scientists should and could provide certain, objective factual information. . . . The guiding principle of normal science – the goal of achievement of factual knowledge - must be modified to fit the post-normal principle. . . . For this purpose, post-normal scientists should be capable of establishing extended peer communities and allow for 'extended facts' from non-scientific experts In post-normal science, the maintenance and enhancement of quality, rather than the establishment of factual knowledge, is the key task of scientists Involved social actors must agree on the definition of perceptions, narratives, interpretation of models, data and indicators scientists have to contribute to society by learning as quickly as possible about different perceptions . . . instead of seeking deep ultimate knowledge.

Post-normal science is much more than the mere politicization of science or the simple dishonesty of some scientists—bad and common as both of those are. It is postmodernist deconstructionism applied to science. That actually oversimplifies it somewhat, but it's broadly correct. It thinks of language and statements as meant not to convey truth but to assert power. The great contest is to see whose metanarrative can capture the imagination, in democratic societies, of the population at large, and in non-democratic societies, of the ruling elite. From a theological perspective, it is the substitute of power, or force, for Logos, or reason. It strikes at the heart of Biblical faith, which affirms not “In the beginning was the power, and the power was with God, and the power was God,” but, in the words of John 1:1, “In the beginning was the Logos, and the Logos was with God, and the Logos was God.”

To illustrate that people right at the top of the pecking order of alarmist climate-change “scientists” know exactly what they're doing—post-normal science, not real science—McGrane presents these telling quotations from socialist Mike Hulme. Hulme prepared climate-change scenarios and reports for the British government, the European Commission, the United Nations Environment Program, the United Nations Population Division, the Intergovernmental Panel on Climate Change (as a lead author for the chapter on “Climate scenario development” for the 2001 Assessment Report and a contributing author on several other chapters), and the World Wildlife Fund. Says Hulme, in his book *Why We Disagree About Climate Change* and elsewhere:s

Climate change seems to fall in [the] category [of post-normal science]. Disputes in post-normal science focus . . . on the process of science—who gets funded, who evaluates quality, who has the ear of policy. . . . The IPCC is a classic example of a post-normal scientific activity.

Within a capitalist world order, climate change is actually a convenient phenomenon to come along.

The danger of a “normal” reading of science is that it assumes science can first find truth, then speak truth to power, and that truth-based policy will then follow . . . exchanges often reduce to ones about scientific truth rather than about values, perspectives and political preferences.

... ‘self-evidently’ dangerous climate change will not emerge from a normal scientific process of truth-seeking ... scientists—and politicians—must trade truth for influence. What matters about climate change is not whether we can predict the future with some desired level of certainty and accuracy. ...

The function of climate change I suggest, is not as a lower-case environmental phenomenon to be solved. ... It really is not about stopping climate chaos. Instead, we need to see how we can use the idea of climate change—the matrix of ecological functions, power relationships, cultural discourses and materials flows that climate change reveals—to rethink how we take forward our political, social, economic and personal projects over the decades to come.

Climate change also teaches us to rethink what we really want for ourselves ... mythical ways of thinking about climate change reflect back to us truths about the human condition. ...

The idea of climate change should be seen as an intellectual resource around which our collective and personal identifies and projects can form and take shape. We need to ask not what we can do for climate change, but to ask what climate change can do for us. ... Because the idea of climate change is so plastic, it can be deployed across many of our human projects and can serve many of our psychological, ethical, and spiritual needs.

... climate change has become an idea that now travels well beyond its origins in the natural sciences ... climate change takes on new meanings and serves new purposes ... climate change has become “the mother of all issues”, the key narrative within which all environmental politics—from global to local—is now framed. ... Rather than asking “how do we solve climate change?” we need to turn the question around and ask: “how does the idea of climate change alter the way we arrive at and achieve our personal aspirations ... ?”

The warfare between post-normal science and real science is important not just in the debate over “climate change,” but in all kinds of issues in which science interfaces with policy. Like the pseudo-Christian cults that borrow vocabulary from Christianity but redefine all the terms, post-normal science is simply the application of rhetoric, borrowed from the sciences, to policy debates, cloaking one particular policy preference with the authority of “science,” and successful at doing so only to the extent that policy makers and the public are ignorant of the fact that post-normal science isn’t science at all.

Real scientists cannot afford to continue neglecting the underlying philosophical questions. If real scientists don’t rise up and point out that this emperor—“post-normal science”—has no clothes, the whole scientific enterprise will die, the world will be a much poorer place, and hundreds of millions more premature deaths and billions more preventable diseases will occur over the course of this century. Ideas have consequences.