
What if Climate Skeptics are Wrong? Best Policy Responses in the Face of Anthropogenic Climate Change

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GCAGS Explore & Discover Article #00306*

http://www.gcags.org/exploreanddiscover/2018/00306_burnett.pdf

Posted September 29, 2018.

*Article based on an abstract published in the *GCAGS Transactions* (see footnote reference below) and delivered as an oral presentation at the 68th Annual GCAGS Convention and 65th Annual GCSSEPM Meeting in Shreveport, Louisiana, September 30–October 2, 2018.

ABSTRACT

Climate change is occurring. The climate is constantly changing both in large increments and small. The extent to which humans are contributing to the present rate and direction of climate change and whether any climate changes influenced by human fossil fuel use will be catastrophic or might even produce positive changes are open questions. What is indisputable, however, is that proposals for government to severely restrict the use of fossil fuels to prevent future temperature rise and associated climate changes for both scientific and political reasons, will in fact have very little impact on climate. Climate change is not expected to create new or previously non-existent problems but rather, to the extent it has negative effects it is expected to exacerbate already existing problems. A fundamental principle of public policy that any government should adopt is to address the most important problems that can in fact be ameliorated first, and to do so in through the most efficacious means at the least cost to society. Climate change is neither the most immediate, nor most important problem confronting humanity. And restrictions on fossil fuel use to fight it are likely to impose greater harms, especially to the most vulnerable, most impoverished members of society, than the harms reasonably expected to be exacerbated by climate change. To take a few problems climate change might exacerbate, drought, hurricanes, sea level rise, and wildfires, the best approach to reduce the harm caused by such events is to confront them directly through a concerted program of wealth creation and focused adaptation. Poverty is the biggest killer and wealthier societies are better able to respond to changing climates, regardless of the direction or cause, than poorer societies. Using more fossil fuels to encourage development, combined with policies to improve crop yields, and decrease the costs of hurricanes, droughts, floods, and wildfires will do more to improve the lot of present and future generations than any program to restrict the use of coal, natural gas, and oil.

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Abstract

Climate change is occurring. The climate is constantly changing both in large increments and small. The extent to which humans are contributing to the present rate and direction of climate change and whether any climate changes influenced by human fossil fuel use will be catastrophic, or might even produce positive changes are open questions. What is indisputable, however, is that proposals for government to severely restrict the use of fossil fuels to prevent future temperature rise and associated climate changes for both scientific and political reasons, will in fact have very little impact on climate. Climate change is not expected to create new or previously non-existent problems but rather, to the extent it has negative effects it is expected to exacerbate already existing problems. A fundamental principle of public policy that any government should adopt is to address the most important problems that can in fact be ameliorated first, and to do so in through the most efficacious means at the least cost to society. Climate change is neither the most immediate, nor most important problem confronting humanity. And restrictions on fossil fuel use to fight it are likely to impose greater harms, especially to the most vulnerable, most impoverished members of society, than the harms reasonably expected to be exacerbated by climate change. To take a few problems climate change might exacerbate, drought, hurricanes, sea level rise, and wildfires, the best approach to reduce the harm caused by such events is to confront them directly through a concerted program of wealth creation and focused adaptation. Poverty is the biggest killer and wealthier societies are better able to respond to changing climates, regardless of the direction or cause, than poorer societies. Using more fossil fuels to encourage development, combined with policies to improve crop yields, and decrease the costs of hurricanes, droughts, floods, and wildfires will do more to improve the lot of present and future generations than any program to restrict the use of coal, natural gas, and oil.

Introduction

While climate is continually in flux over varying lengths of time, over the past 30 years many scientists have speculated, based largely on computer model projections, human greenhouse gas emissions, primarily through the burning of fossil fuels, is contributing to an average warming of the earth, the consequences of which they speculate will be dangerous climate changes – catastrophic for human societies and the environment. The media and policy makers, each I believe for their own self-interested reasons, have picked up on and hyped these claims; promoting or pushing policies to restrict fossil fuel emissions.

I have written and spoken at length over the years in various forum concerning why I am skeptical of the claim we can say with any kind of confidence humans are primarily responsible for current climate changes, and, more importantly, why any impact humans are having on the environment are unlikely to be disastrous, and might even be beneficial. I won't address these points today, rather I wish to examine the question, what if I and other skeptics are wrong, if human fossil fuel use is causing or at least primarily responsible for current climate change and it will impose harms on humans, society and the environment. Immediately jumping from the claim humans are causing climate change to we must restrict fossil fuel use to prevent or mitigate climate change is to move to fast. It ignores the tremendous benefits which flow from fossil fuel use that would be lost or foregone with such restrictions, and the fact that policies to restrict fossil fuel use come with their own costs – costs which in all likelihood outweigh their benefits,

in part because the best evidence is they will only minimally reduce the impacts of climate change. Fossil fuels and the industrial and technological revolution they have powered have been served as the cornerstone, for the tremendous human progress we have experienced over the past 200 years -- powering the greatest engine of wealth creation and dispersion, and the largest reduction of poverty and hunger in human history.

In his brilliant book *The Moral Case for Fossil Fuels*, Alex Epstein writes:

Climate is no longer a major cause of death, thanks in large part to fossil fuels. ... Not only are we ignoring the big picture by making the fight against climate danger the fixation of our culture, we are “fighting” climate change by opposing the weapon that has made it dozens of times less dangerous. The popular climate discussion has the issue backward. It looks at man as a destructive force for climate livability, one who makes the climate dangerous because we use fossil fuels. In fact, the truth is the exact opposite; we don’t take a safe climate and make it dangerous; we take a dangerous climate and make it safe (Epstein 2014).

Earth’s climate is changing, as it always has, but humanity’s role in that change and whether it will produce great harms or, on balance, net benefits is very much open to debate.¹ At the same time, there is no question fossil-fuel use makes us wealthier, and wealthier societies are better able to anticipate, mitigate, adapt, and respond to the vagaries of climate change, regardless of the cause or type of change.

Even if every target is hit under the Obama administration’s clean power plan and the every party to the Paris climate agreement keeps their word (honest reporting and no cheating – a huge if), the world is still likely to see more than 2 degrees Celsius warming – according to the computer models used by the proponents of the agreement.² These agreements will not prevent rising seas, the spread of tropical disease, powerful hurricane’s or wildfires, and there is little evidence, in fact, they will have more than a modest impact on them.

Climate change is not expected to cause whole new categories of harm, rather it is expected to exacerbate already existing problems including hurricanes, flooding, the spread of mosquito borne tropical diseases, wildfires, hunger, etc...³ As a result, the question is should we impose costly limits on the use of fossil fuels, that various international analyses including analyses conducted by the UN’s Intergovernmental Panel on Climate Change have calculated would cost the world’s economy trillions of dollars cutting as much as 2 percent or more from the world’s Gross Domestic Product, in order to modestly reduce a small portion of the harms purportedly caused by anthropogenic climate change -- indirectly mitigating a small portion of the harms caused by these natural events that will still occur – or should we enact policies to confront these harms directly, producing much more good, and reducing much greater amounts of harm, now and for future generations.⁴ The U.S. and the world could enact a wide variety of policy changes, none having to do with mandatory reductions in fossil fuel use, that would produce much more good – mitigate much more harm tied to climate – at much lower costs.

Hurricane’s and Flooding and Sea Level Rise

Climate models project climate change might cause a slight shift in the areas affected by hurricanes, a possible modest increase in the number of hurricane’s forming, and an increase in

the number and sustainability of powerful (categories 3, 4 and 5) hurricanes.⁵ Despite a continuing rise in greenhouse gas emissions over the past 3 decades, and higher than average temperatures (record setting temperatures if government agencies are to be believed), hurricane numbers and the number of powerful hurricanes making landfall are, if anything, recently below normal. Before the 2017 Hurricane season, the U.S. had experienced the longest sustained period without a major class 3 or above hurricane making landfall in the United States – more than 11 years -- in its recorded history.⁶

Still hurricanes do and will strike the U.S. going forward but there is little evidence ending fossil fuel use will prevent any number of major hurricanes from forming, but we can do something that will reduce the lives lost, injuries from, and costs of (to a more limited extent) hurricanes. While the lives lost to hurricanes and flooding in recent decades has steadily and substantially declined, the economic costs from such events have risen dramatically, and federal and state policies, not climate change, are largely responsible for these facts.

When people own property and are fully responsible for losses due to their poor land use or development decisions, they are less likely to build or rebuild in areas regularly prone to flooding or erosion. This link — between a person's ownership of property and responsibility for their land-use decisions — disciplines people who use their property badly.

Unfortunately, a host of government programs break this link by subsidizing unwise housing and commercial development decisions. All too often the result is lost lives, destroyed property and livelihoods, and environmental destruction. The U.S. Army Corps of Engineers (Corps) flood control program, federal flood insurance and hurricane insurance, and Corps beach replenishment projects subsidize construction in flood-prone areas, encourage high-risk development and harm environmentally sensitive areas.⁷

Existing federal flood control programs, and responses to hurricanes, exacerbate rather than reduce the human and economic toll from floods, by encouraging people to develop in flood and hurricane prone areas, subsidizing their insurance premiums and insurance payouts, protecting the occupants of floodplains against floods through dikes, dams, etc, providing emergency aid when people suffer flood and hurricane losses – all of which encourage more intensive use of floodplains and coastlines. Federal programs create the perception the federal government will take care of any flood hazard or hurricane occurrence. Indeed, Corps flood control projects all too often undermine the incentive to purchase flood insurance since the presence of levees and other flood control devices often eliminates federal and state requirements a property's owners purchase flood insurance. Disaster relief also undermines the incentive to purchase flood and hurricane insurance since the federal government often provides aid or rebuilds properties that didn't carry insurance right along with those that did – making the purchasers seem like suckers. Indeed, federally subsidized flood insurance encourages people to build homes where they otherwise would not. It encourages lenders to finance mortgages they otherwise would not. Since its creation in 1968, the NFIP has paid out more than \$1 billion for more than 10,000 properties (numbers from 2005) that have experienced two or more losses, with cumulative claims often exceeding the value of the property.

The National Climactic Data Center says that increased population and development of coastal areas – not climate change -- is responsible for the increase in losses due to hurricanes.

According to the 2000 U.S. Census, more than half of Americans live within 50 miles of a coast and by 2025, 75 percent will, all encouraged by subsidized hurricane and flood insurance. The Heinz Center determined that in the absence of insurance and flood control programs, development density in areas at high risk of flooding would be about 25 percent less than in low-risk areas. Interestingly, hurricane and flood insurance is most often a form of welfare for the well to do since ocean front and river front homes and condos are typically high end properties, owned by the relatively wealthy.

Government programs should neither subsidize those who choose to live in harm's way, nor encourage environmental destruction — but those are the results of NFIP, FEMA rebuilding loans and Corps beach restoration projects. Any development in high-risk areas should reflect its actual cost to the public and the environment and should be borne solely by the states, localities and individuals benefiting from them. Ending subsidies to development in high-risk areas would reduce the economic, human and environmental toll of natural disasters. Doing so would still allow the owners of properties at risk of hurricanes and floods to develop their property as they see fit, but it would have the added benefit of ensuring that they, rather than the general public, were responsible for any poor development decisions. Since the costs of making bad decisions are substantial, under this policy disaster, we should expect fewer of them.

Abroad, allowing developing countries to use fossil fuels to develop is the best way to limit the damage from floods and cyclones, regardless of how powerful they are. The difference between the flooding in New Orleans (partly man made) or the hurricane damage to Galveston and even Florida in past two decades from hurricanes and the number of deaths and disasters from similar events in Indonesia, India, and various Caribbean Islands, is dramatic but was not due to wind speeds but poverty. Poverty, and attendant poor infrastructure, medical, emergency and early warning systems are responsible for 10,000 of thousands, in some years hundreds of thousands of deaths, annually in poor countries that experience flooding and cyclones. By comparison, in the U.S., deaths from such events are typically less than a dozen.

What about rising seas? Sea levels aren't rising uniformly around the globe and in some places they are actually falling (or more accurately, more land is being added than subtracted – like in Tuvalu for instance). In other locations, where seas are “rising” at a rapid rate, the problem is not actually rising seas, but land erosion and subsidence due, in large part, to development decisions.

Sea levels have risen, unevenly, across the globe by more than 400 feet since the end of the last ice age and they will continue to do so until the next ice age comes – that's what happens during interglacial periods. Sea levels are rising at a slower rate now than they have during most of the last 18,000 to 12,000 years. During the 19th century seas rose between (approximately) 7 to 12 inches; during the 20th century, during the period of purported human caused climate change, they rose approximately 7 to 12 inches, and climate models indicate the most likely range for the next 100 years is 7 to 12 inches. The Dutch, among others, have long dealt with rising seas and eroding shores – we know how to do so as well. If the world stopped burning fossil fuels entirely by 2030, at best it would prevent less than an inch – possibly less than a half of an inch -- of the expected sea level rise – at the cost of trillions of dollars. For instance, the Obama administration admitted in Congressional testimony, the clean power plan – an integral part of the U.S.'s Paris climate agreement commitment – would have prevented just three sheets of paper (laid flat) of

sea level rise. Like King Canute proved to his courtiers, nothing we do will prevent sea level rise we can only adapt, harden our communities and infrastructure against it, or relocate them.

Tropical Disease

Today, some 4.4 billion people worldwide are at risk from malaria spread by disease-carrying mosquitoes. This will grow to 8.8 billion people in 2085, even in the absence of climate change, due to increased population in developing countries where the disease is epidemic. Global warming is projected to increase the population at risk by 3 percent (256 to 323 million additional people) in 2085. This is due to an increase in the range of mosquitoes, for example, to higher altitudes. Remember malaria is not really “tropical disease,” but rather a largely preventable disease – where it is rife now it is due to poverty and government policies which prevent effective solutions that have virtually wiped out malaria in developed countries like the U.S. where it was common through the 1950s.

Meeting the Kyoto Protocol’s emission reduction targets would reduce the population at risk from malaria by only 0.2 percent.⁸ Stabilizing CO2 emissions at 550 ppm would reduce the population at risk from malaria by 0.4 percent. The Paris agreement would do less than that, so let’s say it cuts future populations at risk by incidents of malaria by 0.3 percent – cutting the number of those at risk by 26,400,969.

Of those at risk, the World Health Organization (WHO) reports 214 million people contracted malaria in 2015, and annually it claims the lives of between 500,000 and 1.5 million people, many of them children. Best case scenario, cutting carbon emissions by the amount required by the Paris climate agreement would prevent 4,500 premature deaths from malaria.

By contrast, according to the WHO spending just \$1.5 billion or less (in 2003 dollars) annually on direct interventions to prevent malaria could virtually cut the disease’s death toll in half or more, while preventing millions of more illnesses than attacking it indirectly through cutting carbon dioxide emissions. Attacking present-day vulnerabilities, through such measures as further development and better delivery of public health services for — and research targeted at — better treatment and prevention of malaria, and the broader use of effective pesticides would save far more lives than ending fossil fuel use. As Interior department official Indur Goklany has written, “even if the WHO’s cost estimate is overly optimistic by an order of magnitude, the benefits of reducing current populations’ vulnerability to malaria now would be much greater and cost significantly less than actions proposed,” proposed to cut carbon emissions (Goklany 2005).

These measures would reduce risks to 100 percent of the global population at risk today and the future, while mitigation would at most address a small portion of at risk populations in the future. And, as Goklany writes, “Perhaps even more important, reducing malaria in developing countries today would enhance those countries’ adaptive capacity. It would improve public health, and assure fuller development of their human capital and potential for economic development, which would enhance their resiliency and reduce their vulnerability to any adversity, whether caused by warming or another agent (Goklany 2005).”

Hunger and Immigration

The number of people at risk of starvation, malnutrition and hunger have fallen dramatically during the past half century, all during the period of recent warming. While climate models project some people and regions will be placed at risk from hunger due to changing weather patterns and changes in localized drought and desertification, in fact, they predict, overall hunger will continue to decline. Indeed, numerous studies indicate the advent and expanded use of modern chemicals (which depend on fossil fuels both as feed stocks in the production, and for delivery and application) and biotechnologies for agriculture, combined with the fertilization effect increasing carbon dioxide in the atmosphere, will allow us the ability to feed the earth's growing population calorically sufficient, nutritious diets in the future – unless fossil fuel use is sharply curtailed or ended entirely and the use of bioengineered crops is banned. During the period of warming and higher carbon dioxide, crop yields continue to set records year over year – regularly – even as less acreage is put into production, croplands are reclaimed by grasslands and forests, and various desert regions are greening.

Many agronomists argue many plants were virtually starving for carbon dioxide before the industrial revolution, when carbon dioxide levels had fallen over the millennia to just 180 parts per billion – only 30 parts per billion above the level at which plants can no longer photosynthesize – during the last ice age.⁹ Most plants evolved at times when carbon dioxide levels were much higher than at present. Increasing carbon dioxide helps plants grow faster and stronger. It also improves their water use efficiency. Thus, even if water regionally becomes scarcer or drought more frequent, plants can thrive because they lose less water through transpiration under higher carbon dioxide levels. Indeed recent studies from NASA show that increased carbon dioxide alone accounts for 70 percent of the recent greening of the globe.

In the 1990s the world spent about \$33 billion annually on agricultural research and development (R&D), including \$12 billion in developing countries. Increasing R&D investment, for instance, an additional \$5 billion per year, should more than compensate for the any regional short annual shortfall caused by unmitigated warming, particularly if the additional investment is focused on solving current agricultural problems in developing countries that might otherwise be exacerbated by warming. And investing this money today, addressing agriculture directly, as opposed to indirectly by limiting fossil fuel use, would begin reducing the population at risk of hunger by as much as 50 percent now, according to WHO estimates, benefitting future generations across time.

Everything I've said above applies equally to problems like war/immigration.

Some have speculated climate change will cause wars and increasing numbers of refugees and, in a couple of journals, they have sited Syria, and areas in Africa as cases in point. As with so many alarming climate disaster claims, this one is long on speculation and short on evidence. Let's look at some facts, parts of Africa are actually greening now that were formerly desert and scrub due to increased carbon dioxide. Deaths from starvation and global malnutrition have fallen dramatically during the recent period of warming, and extended droughts throughout these regions are common throughout history – and geologic history shows, in the U.S. and across the world, droughts have been more common and of greater duration during colder rather than warmer periods. Most directly countering this claim is the fact that countries surrounding Syria, like Israel, Saudi Arabia, Iran, Turkey and the UAE, to name a few, are experiencing the same drought that Syria has experienced – it's a region wide drought, yet their people are not fleeing in droves. War, not war caused by climate change but a war fought over freedom, ideology, and

power, is driving the refugee crisis in the Middle East. Wealthier countries in the region are handling the drought, some quite well, others, while struggling, are not experiencing war or population flight.

Facing water shortages, Israel, rather than seeing an exodus of citizens, has seen its population grow – they solved the water crisis by developing a large scale desalinization system. It is providing both drinking water and water for agriculture, and at prices much lower than previous generations of desalinization systems. I predict the world will look toward Israel's example, and technology, to prevent water shortage crises in the future regardless of whether climate change causes increasing or decreasing amounts of rainfall in any particular region or country.

Poverty the Real Problem

Continued penury and extreme poverty is still the biggest killer in the world and the difference between the impacts of any particular natural disaster, whether anthropogenically enhanced or not, on peoples' fate and response is their relative level of development and wealth.¹⁰ People in wealthier societies do and will continue to fare better in the face of weather conditions, regardless of climate change. And at present and for the foreseeable future, a society's wealth is in large part dependent upon its access to and use of fossil fuels combined with strong markets, private property rights, and relatively uncorrupt government institutions.

Although the kings of old controlled armies and sometimes untold riches, I have a car, microwave, indoor plumbing, and safe drinking water, and I can eat almost any fruit or vegetable without regard to season and can travel across the world in mere hours. All the wealth and power ancient emperors had couldn't buy any one of these things, and they were all made possible through the use of fossil fuels.

Today's poor deserve the chance to live as I do, not as their ancestors have done for millennia, toiling in poverty, constantly threatened with disease and malnourishment. Only fossil fuels can deliver them from this fate, and restrictions on fossil fuel use to fight climate change will only delay the day when they are freed from it. By contrast, wise policies and investments to directly address the major climate related problems facing the world today will benefit both present and future generations.

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¹ See, for instance, any number of publications from the Non-Governmental International Panel on Climate Change including Craig Idso, et al., 2015.

² See, for instance, Milman 2015; Tol 2015; and Tracinski 2015.

³ Goklany, I. 2003 or Lomborg, B. 2014.

⁴ IPCC, 2001. Per Goklany, I., 2005; the cumulative GDP of Annex I countries in 2003 was \$29 trillion in 2003 dollars; According to the World Bank, 2005 and by 2010 their GDP should be \$33 trillion (also in 2003 dollars), assuming they continued growing at the same rate as they did between 1996 and 2003.

⁵ Intergovernmental Panel On Climate Change, 2007.

⁶ McNoldy, B. 2007.

⁷ All remaining data from this discussion of hurricane and flood programs can be found in Burnett, H.S. 2006; References for specific data can be found in this work.

⁸ Ibid, Goklany, 2005, pp. 3-5. Some numbers have been updated, per WHO information online.

⁹ See, for instance, Idso, S. 1992.

¹⁰ Lomborg, B. 2016.

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