Poverty and Climate Change

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In an effort to address global warming, rich countries appear willing to reduce their own emissions of carbon dioxide and other greenhouse gases (hereafter subsumed under the umbrella of CO_2) by upwards of 80% or more by 2050, with the proviso that overall global emissions decline by 50%. One important justification for such targets is the notion that global warming will hurt the poorest people on Earth. The poverty argument is particularly used by many Christian groups that support such drastic actions to jeopardize the tremendous economic progress witnessed since World War II. (An example is Calvin DeWitt's article, "Climate Care: Our profound moral imperative", in *The Banner*, which is the official magazine of the Christian Reformed Church.) That action today will benefit the world's poor in 50 or 100 years from now is a flawed notion for four reasons.

1. The science remains unsettled

It might come as a surprise to many, but there is no consensus regarding global warming. The science underpinning the view that anthropogenic emissions of CO_2 are leading to runaway global warming is unsettled. There never was a consensus. Nor does science operate on the basis of consensus. If anything, the scientific evidence has sharply turned against the idea that *catastrophic* anthropogenic global warming is underway. There are three reasons.

First, the standard story adhered to by climate scientists assumes the globe`s climate system is essentially in long-run equilibrium, but that economic development originating with the industrial revolution disturbed this equilibrium. In his influential 1982 book, *Climate, History and the Modern World*, H.H. Lamb writes:

> "… many people now know that there have been significant shifts of climate during the twentieth century. … The former assumption of constancy of climate is thus widely felt to be unsatisfactory today. … [One] fears about the possibility that man's activities, and their increasing scale and variety, may have side-effects that disturb the climatic regime, just as they are visibly changing other aspects of the environment about us" (p.2).

Clearly, from the very start, climate science has been an environmental movement that is less concerned about climate per se than it is about humankind's impact on the environment. The focus is the environment, not humans. People are considered to be the problem, not the solution.

The industrial revolution led to a huge improvement in humanity's material wellbeing. It also resulted in rapid population growth as more infants survived birth and people began to live longer, by upwards of 30 years or more. At the same time, energy-driven economic development raised standards of living beyond our wildest dreams, although the wealth was not equally distributed.

From the beginning, it seems, environmentalists objected to the materialism on supposedly ethical grounds, and warned that population and income growth would inevitably lead to shortages in raw materials (especially energy) with dire consequences. But shortages in raw materials were not forthcoming, and the world's population is forecast to level off and even decline by the mid-21st century. Thus, the environmental movement turned to climate change as the catastrophe *du jour*.

Among many other eminent scientists, physicist Richard Muller (UC Berkeley) noted that the effort to

demonstrate the natural stability of the globe's climate system represents a black eye for science. Scientists manipulated paleoclimatic data and the peer-review process to make the case that average global temperatures had been stable for a thousand years or more, only to rise precipitously beginning in the late 1800s – the graph looking much like a hockey stick. The climate scientists effectively eliminated the Medieval Warm Period (800-1300) and the Little Ice Age (1300-1850), explaining them away as localized phenomenon. Despite efforts to block access to data and attempts to prevent critics from publishing their research, the 'hockey stick' story has now been thoroughly discredited. There is no scientific basis to support this view of the world. Today's temperatures are no different than those experienced in the past two millennia.

Climate scientists have also provided historical reconstructions of global temperatures from weather station data – the instrumental record. To demonstrate that temperatures are related to CO_2 concentrations in the atmosphere, the reconstructions removed non-climatic influences related to urban development, rising standards of living, population increase, etc. The reconstructions go back to as early as 1850, and these suggest that temperatures are rising in lock-step with increasing CO_2 in the atmosphere. However, not only is there no statistical link between temperatures and CO_2, but there is irrefutable evidence that the reconstructions are in error because they have not eliminated non-climatic factors, which appear to account for about half of the observed rise in temperatures. In essence, temperature reconstructions based on surface measurements (weather station data) are unreliable, although the same research shows that satellite-based temperature measures are not influenced by socioeconomic factors. Unfortunately, satellite data are available only since December 1978, and these show a rise in temperatures to 1998 followed by no discernable trend since then. Yet, climate models continue to predict ever higher global temperatures.

The only conclusions one can draw from the temperature records are the following: There is no conclusive evidence that the temperatures experienced today are any different than those experienced in the past. Recent experience with rising global temperatures may simply be the result of 'leaving behind' the Little Ice Age. There is no direct observable link between rising atmospheric CO_2 and temperatures, although the causal link between the two is well established theoretically. However, the direct impact of CO_2 on temperatures – the CO_2 climate forcing – is small and it takes feedback effects working through water vapor to obtain a significant 'greenhouse effect.' Some studies indicate that the feedbacks are insignificant because cloud formation caused by increased water vapor in the atmosphere reduces temperature rise. Cloud formation and other factors appear to exert a greater influence on temperatures than carbon dioxide.

Second, projections of future global warming are based solely on climate models. A group of scientists has now shown that the models are suspect – predictions from climate models do not agree with observations. Given the difficulty climate models have tracking past temperatures, and their inability to 'duplicate' long-term climate trends such as the Medieval Warm Period and the Little Ice Age, forecasts of future temperatures based on climate models must be considered unreliable – stories at best.

Third, climate scientists have long downplayed the effect of changes in the Sun's activities on the Earth's climate. Recent research from a number of different quarters has now demonstrated that the Sun plays a large, perhaps even the dominant role, in changing the Earth's climate. Even other heavenly bodies affect the Earth's climate, either through their impact on the Earth's orbit or their influence on the intensity of cosmic rays reaching Earth. Greenhouse gases and anthropogenic emissions appear to be a minor player in the climate dance.

Physicists have established both an empirical and theoretical relationship between the climate on Earth and solar activity. Recent experiments at CERN's Large Hadron Collider confirm earlier experiments by Danish physicists, who had theorized that solar activity shielded the Earth from cosmic rays. As the cosmic ray intensity increases as a result of reduced solar activity, this, in turn, leads to greater cloud formation that cools the Earth. Indeed, many now forecast that the Earth is headed for a period of cooling as opposed to warming.

2. Projections of global warming assume global poverty is nearly eliminated

Climate models require knowledge of future emissions of carbon dioxide. In its *Special Report on Emission Scenarios*, the Intergovernmental Panel on Climate Changes (IPCC) has developed such scenarios on the basis of assumptions regarding population growth, technological change that reduces CO_2 emissions per $1000 GDP, and economic growth. Because the IPCC is part of the United Nations, it follows UN targets related to economic development, poverty reduction, and convergence of incomes between poor and rich countries. The scenario leading to the greatest warming (scenario A1F1) assumes that global average per capita income (measured in 1990 US dollars) will rise to more than $70,000 by 2100, **and** that the ratio of rich to poor per capita incomes will shrink from 16.1 to 1.5! That is, there will be no poor people to speak of in the future, so even the poorest country should be able to adapt quite easily to climate change.

3. Policies to mitigate global warming harm the poor more than anyone else

Activists who are religiously or otherwise motivated to prevent global warming because of its potential adverse impacts on the future poor do not understand that such actions will do untold harm to those currently living in poverty. Several billion people currently live on less than $1.25 per day, the absolute poverty line. They have no access to electricity or other clean forms of energy. Despite the ubiquity and cheapness of fossil fuels, the policies of rich countries raise the costs of such fuels, dooming peasants to rely on wood, dung and grass for cooking and heating. These fuels are inefficient, result in respiratory diseases, reduce life expectancy, and require peasants (mainly women and children) to expend time and effort searching and collecting fuel, while degrading the environment.

As the case of China shows with great clarity, without massive amounts of cheap energy, it will be impossible for a large proportion of the global population to escape poverty. While wind and solar energy do offer some opportunities for poor countries, these sources of energy are too costly and unreliable to enable large numbers of people to aspire to the standards of living found in the developed world. What is needed is a massive expansion in electrical generating and transmission capacity that relies on coal and natural gas. Although nuclear energy would be preferred, fear of nuclear proliferation and possible meltdown of nuclear power plants makes it highly unlikely that this energy source will be exploited in developing countries in the foreseeable future. Efforts to increase the price of fossil fuels through carbon taxes and/or cap-and-trade schemes, or simply preventing exploration and exploitation of fossil fuels for environmental reasons, will raise costs and thus stall economic development in poor countries.

Meanwhile, biofuel policies that seek to replace fossil fuels with ethanol and biodiesel raise food prices, thereby driving more people into poverty. In 2011, more than half of the U.S. corn crop was diverted to ethanol production, while the same proportion of Europe's canola (rapeseed) harvest and 18% of the world's sugar crops were used to produce biofuels. For people in rich countries, the cost of bread and other products will rise by a few percent as the large majority of the costs of producing

these foods are unrelated to the cost of the grain input. Not so in poor countries, where people purchase grains and produce the final food consumption item (corn meal, bread, etc.) themselves. Because many peasants allocate 80% or more of their income to purchasing foodstuffs, a small increase in the price of grain represents a true hardship – a setback that could land them below the absolute poverty line. Biofuel policies in rich countries have adverse impacts in poor countries, including starvation and political instability.

4. Countries are wedded to economic growth so emissions of CO_2 will increase

Are the CO_2 targets mentioned above realistic? Absolutely not! About half of all CO_2 emissions originate in developing countries. Therefore, even if developed countries were able to meet their targeted reduction of 80%, this would require developing countries to reduce emissions by 20% from current levels to attain a global reduction of 50% by 2050. Unless rich countries are willing to rely on nuclear power for much of their energy, there is no way their target could ever be met. Meanwhile, it would be immoral to deny poor countries the opportunity to develop by imposing a 20% targeted reduction.

Politicians know this, which is why targets are set far enough into the future (2020 or 2050) to satisfy voters and environmental lobbyists, but not too near to affect them while they are in office. Surveys show that citizens are willing to put up with a bit of pain to address global warming, but not much, and certainly not the pain required to address the severe emission-reduction targets set out.

But what is more important is that politicians, climate scientists and citizens generally appear unable to grasp the link between the budgetary decisions of government and climate policy. Contrary to economic wisdom that requires governments to balance their budgets or run surpluses during good times and accumulate debt during downturns, western governments have for the most part during the past four decades run deficits during good times and bad. Government debt accumulated only very slowly because economic growth tended to be strong. By 2008, however, the debt that had slowly accumulated had become difficult to manage. But then things changed. The financial crisis led to public bailouts of some large companies and financial institutions, and a massive increase in government spending to get the economy out of recession. Greece, Ireland and Portugal were forced to declare bankruptcy, with other Euro-zone countries forced to come to their aid. Spain, Italy and France are in financial crisis, and even the United States is having budgetary difficulties at a time when some nine percent of its workforce is unemployed. Budget cuts are the order of the day as countries' deficits have increased dramatically and debts near 100% of GDP, or more in the case of Greece and Italy.

There have been demonstrations and even riots in various countries as citizens protest cuts to pension benefits, increases in retirement age, reductions to the civil service, increased taxes, and the potential loss of entitlements of various kinds. There is little agreement on what should be cut, but the poor will undoubtedly lose some benefits; and their pain will be increased by such things as carbon taxes. At this point, countries essentially hope that economic growth will soon resume and that it will be fast enough to eliminate the deficit and eventually leave some excess revenue to put against the debt. Economic growth is a must! The alternative is to print money, but this is an even worse evil that creates particular hardship for those on fixed incomes and the poor. Inflation is a double-edged sword that could result in much greater short- and long-term pain than budget austerity.

Consider what economic growth implies for climate change. Suppose a country has a debt equal to its GDP and that is pays 3.5% interest on that debt. To prevent the debt from growing the country must

run a balanced budget and grow by 3.5 percent. For a small country, such as Greece, this growth would add an extra 7 million metric tons (Mt) of CO_2 to the atmosphere each year. If taken over the entire Euro zone, it adds 123 Mt CO_2. That is, the additional carbon dioxide entering the atmosphere as a result of the growth needed in the Euro zone simply for countries to make interest payments on their debt amounts to one-fifth of total Canadian emissions. Economic growth in rich countries is required because of the profligacy of their governments and demand by citizens for the riches energy consumption affords, and this extravagance has a cost in terms of carbon dioxide emissions.

If one adds to this the carbon dioxide from growth in the developing countries, it is clear that emission reduction targets will not be met. CO_2 emissions will continue to grow into the foreseeable future. In that case, the harm done to today's poor in the name of preventing climate change has no benefit in reducing future poverty. Misery simply increases.