

"How We Address Global Warming Will Determine More Than Just Our Future."

Sermon for the First Religious Society of Carlisle

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First, I want to thank you and especially Ernest and Ellen Huber for inviting me to address you on the subject of climate change from this pulpit. I have spoken from many secular lecterns, but the issues of climate change are not simply matters of science and public policy. The implications of what we are doing to our planet and to our fellow human beings are issues of deep ethical significance.

Second, I want to recognize the tension in the world today between faith and reason. The hostility towards science among many who consider themselves religious, and the disdain that many scientists have for organized religion. We hear a lot about "Islamic fundamentalists," and their fanaticism. But there are also Hindu, Jewish and Christian extremists who are equally intolerant of others not of their particular faith and of those who espouse a more secular basis for their belief system. "Reason" does not have an unblemished record either with its contribution to some of the most horrific weapons ever imagined, and the "amoral" stance that many scientists and engineers affect when asked about their contribution to some particularly troubling innovation.

The good news is that people such as E.O. Wilson, an outstanding senior spokesman for science and for the ethical implications of the current assault on biodiversity has begun a critical dialogue with those who prefer to speak of creation rather than nature. Next week, Dr. Eric Chivian of Harvard Medical School and Richard Cizik a leading Evangelical, will host a dialogue at Harvard of the Scientist-Evangelical Initiative, which is developing a way for scientists and evangelicals to discuss and agree on issues such as how to address climate change. People who open their hearts and minds to others cannot only agree, but can work together actively to solve some of the critical issues facing all of us.

What I will argue today is that we need both faith and reason in a new alliance if we have any hope of extracting ourselves from the modern dilemmas that we face.

First, what is the climate challenge? It is not as many assume, an environmental problem. The rising planetary temperature that is global warming is merely planetary fever – the symptom of an underlying condition. That condition is accompanied by multiple additional symptoms:

- Altered precipitation patterns producing droughts and floods (Africa, Australia, US Southeast and West)
- Extreme heat waves and massive fires (Melbourne Australia)
- Decreased snow and ice cover

- Melting of glaciers and Arctic and Antarctic sea ice
- Rapidly rising sea level
- Migration of pests such as those devastating forests
- Shifting of tropical diseases to temperate climates (West Nile virus)
- Increased forest fires in the American west and elsewhere
- Vanishing of habitats and species
- Decline of coral reefs from sea warming and acidification

Here is what the U.S. insurance industry says about what is happening”

“Wildfires have increased fourfold since the 1980s, and they are bigger and harder to contain because of earlier-arriving springs and hotter, bone-dry summers. Increasingly destructive weather -- including heat waves, hurricanes, typhoons, tornadoes, floods, wildfires, hailstorms and drought -- accounted for 88 percent of all property losses paid by insurers from 1980 through 2005. Seven of the 10 most expensive catastrophes for the U.S. property and casualty industry happened between 2001 and 2005.”

Save for the statistics, this quotation could be out of the Book of Jeremiah.

The Intergovernmental Panel on Climate Change states it in drier terms:

- “Eleven of the twelve warmest years since 1850 have occurred in the past twelve years (1995-2006)
- Total temperature rise from 1850-1899 to 2001-2006 is 0.76 deg C (plus or minus 0.2)
- Rate of warming in past 50 years is double the average for the last 100.
- Rate of sea level rise has doubled since 1993”

Newer research finds that the intensity of tropical storms has increased by 50% since 1970 as sea surface temperatures have increased.

IPCC analysis concludes, “Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”

This is a lot of symptoms! So what is the underlying diagnosis?

Clearly, we have spent the past 200 years of the industrial revolution meeting our needs and wants in a way that is unsustainable. Our economy is driven by energy from fossil fuels, and by transportation, industrial and agricultural practices that treat the atmosphere as a free waste dump for carbon dioxide and other heat trapping gases. The underlying diagnosis is unsustainable development that depends upon a 300 year supply of depleteable fossil fuel resources that will fill the atmosphere with over five times as much carbon dioxide and other gases as have been released since the beginning of the industrial revolution.

And what is our response to this? The United States and other governments have been on a mission to gain access to fossil fuel resources all over the world, and we spend approximately one-quarter of our defense budget defending access to oil alone. We accept some of the most outrageous actions by governments that violate fundamental human rights and even the funding of terrorists by oil and gas rich nations in order to remain in their good graces.

Condoleezza Rice testifying before the Senate Foreign Relations Committee, April 12, 2006 stated

“We do have to do something about the energy problem. I can tell you that nothing has really taken me aback more as secretary of State than the way that the politics of energy is -- I will use the word warping -- diplomacy around the world. It has given extraordinary power to some states that are using that power in not very good ways for the international system”

Recently, Chevron ran ads saying, “It took us 125 years to use the first trillion barrels of oil. We'll use the next trillion in 30. Why should you care? Will you join us?”

Joining Chevron to burn another trillion barrels of oil is really not in our interest or the rest of humanity's. In addition to the problem of the total emissions, there is the question of distributive equity. The emission culprits and the victims of the consequences are not the same. The average global annual per capita emissions are about 4 tons of carbon dioxide per person. China is already above this level today. India is less than half of it, and many developing countries emit less than one ton per capita. We Americans annually release over 19 tons apiece, which is more than twice what the average European or Japanese emits. Yet our European and Japanese neighbors seem to live pretty decent lifestyles with far lower emissions.

The consequences of higher temperatures and heat waves are hitting people in tropical countries, but we seldom hear of the massive death tolls. In 2003, heat waves hit Europe and killed over 30,000. Sea level rise will inundate small island nations like the Maldives and Seychelles and low lying areas such as coastal Bangladesh or the Nile delta of Egypt. The citizens of Tuvalu in the Pacific have already petitioned New Zealand for refugee status when their nation sinks beneath the waves, and Maldives is buying land for resettlement in India. Intensified storms like Hurricane Katrina devastated New Orleans with the loss of 1000, mostly poor fellow citizens. Tropical cyclone Nargis killed at least 100,000 in Myanmar last year, and 144,000 died when a cyclone hit Bangladesh in 1991. Elizabeth Kolbert has documented in her “Field Notes of a Catastrophe” the damage to land and people in the Arctic as permafrost melts and coastal villages erode into the sea.

It is only a matter of time before we begin feeling the really serious of climate change here in Massachusetts. A report on Northeast Climate Impacts released in 2007 by the Union of Concerned Scientists projected that the business as usual scenario by 2075 could inflict 24 days over 100 degrees F on our Boston area descendants up from an

average of one such day per year now. There could be 63 days above 90 degrees or two out of every three days between Memorial Day and Labor Day. The climate of Boston will become that of Charleston SC. As sea level rises, the 500 year storm surge becomes the 10 year storm surge, and the flooding of Back Bay by overtopping the Museum of Science dam would become a once a decade event. (Great for Duck boat tourism!) Imagine what this means for parts of the world where temperatures now reach 115 to 125 degrees during extreme events. Perhaps Americans will be able to stay indoors and turn up the air conditioning, but what about the billions who can not.

It is argued that ethics arises because we as humans have foresight. Because we can anticipate the consequences of our actions, we have an ethical obligation to avoid those actions that may knowingly harm others. It is clear that we are not practicing those obligations when it comes to others who are less well off than we, yet who are already suffering the harm caused by climate change to date. And what are our obligations to those who come after us?

One aspect of climate change that is little appreciated is its inherent irreversibility. The half-life of carbon dioxide in the atmosphere is about a century. So when I burn one gallon of gasoline in my car, it puts nearly 20 pounds of carbon dioxide into the air. 100 years from now, 10 of those pounds are still there. Imagine how the world would be if we emitted carbon as charcoal out our exhaust pipes. Every four gallons of gasoline burned is like dumping a 25-pound bag of charcoal beside the road. Temperatures will continue to rise for about 300 years after we stabilize concentrations in the atmosphere, and sea level will continue to rise for 3000 years.

Yet we must take action now to lower our emissions. Concentrations of carbon dioxide are currently one-third higher than preindustrial levels and methane another potent heat trapping gas has more than doubled. Emissions are accelerating. Americans are responsible for approximately 30% of all the warming gases in the atmosphere – about the same as China, Russia, Germany, Britain and Japan combined. It is estimated that the world needs to reduce our energy emissions by 80% over the next 50 years just to keep temperatures from rising another two degrees F. More than this is sure to set off irreversible changes such as melting Greenland ice raising sea levels by 22 feet. An 80% reduction is equivalent to reducing each of our personal emissions by 3% per year, cutting them in half in just 23 years and to one-fourth in 46 years. Driving one mile per day less meets this requirement. Replacing your car with one that doubles its mileage capitalizes your reductions by 5% per year for the life of your new car. There will be at least three replacements of cars over the next 50 years; so how low can we go? Improvement in the efficiency of our homes and appliances by one-half to two-thirds is achievable for most present homes in Massachusetts today. Eating a less energy intensive diet, purchasing products with less imbedded energy and emissions all can put us on the road to a more sustainable climate future.

Even as we lower our carbon intensity, we must urge our government to provide development assistance to poor nations so that they can improve their wellbeing with a

low carbon footprint is essential. We need to find ways to collaborate with China and India to find ways to lower emissions rather than play the blame game. The negotiations that will culminate this December in Copenhagen must set up an international order for addressing the climate, but it is essential that we begin at home. One of the best ways to address the current financial crisis is to invest in massive energy efficiency efforts, rebuild our electrical power system with many more renewable energy technologies such as solar and wind. Improve the performance of our buildings and transportation system to lower our emissions dramatically. This will all create jobs here and abroad, will help to restart the economy and will free us from the vulnerability of a very fragile global fossil fuel market and the embarrassment of having to make excuses for governments that do not deserve to have excuses made for their transgressions.

So, how we respond to climate change is as important as what we actually do in our response. If we adopt lifeboat ethics, and only try to save ourselves, while ignoring the plight of our fellow humans who now live in far off places or who will some day live in far off, future times, we will not only fail in our task of stemming global warming and climate change, but will end up as diminished spiritual beings as well. With global warming, the seas will rise on all shores, and both ends of our lifeboat will sink or float with all of humanity.

The opportunities for us to work with the rest of the world to move onto a sustainable environmental, economic and social trajectory that benefits the planet and us all are immense. To paraphrase Rom Emanuel, President Obama's chief of staff, "this crisis should not be wasted."

Of all issues, climate change is the one that requires that we employ both faith and reason. Let us use reason and knowledge to understand the fullness of the problem, and our ethical values motivated by faith to begin working immediately an equitable solution. Let us use the climate challenge as a means to regain our spiritual footing and our sense of commonality with our fellow beings and indeed with all of creation. Our success will define both our future and who we really are.

Thank You