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The Kyoto Protocol: A Post-Mortem

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It may not be a household word, but by now the Kyoto Protocol has become a well-known political slogan. President Bush has called it "fundamentally flawed," while some environmentalists in America and Europe have said it is essential for saving the Earth's climate and the future of humanity itself. Many on the right have called it economic madness, while for many on the left it is an ecological article of faith. There seems to be no position in between.

The Kyoto Protocol is a treaty intended to ration the use of energy in order to address the concerns of those who believe that we face a global warming catastrophe. These worriers include not only environmental groups and anti-capitalist radicals, but also a surprising number of mainstream technocrats throughout the West, such as former Treasury Secretary Paul O'Neill and Sir David King, the scientific advisor to the British government, who equates the threat of warming with that of international terrorism.

But the facts have always made it clear that Kyoto would be outrageously costly and completely ineffective—as designed, it would not even noticeably influence the climate. And more importantly, in light of recent developments, the treaty is essentially defunct. Now may be the ideal moment to reexamine the origins and shortcomings of the Kyoto Protocol, and to learn its lessons before future global warming treaties repeat its mistakes.

A Treaty on Shaky Ground

The Kyoto accord is a protocol connected to an existing global climate treaty adopted in Rio de Janeiro in 1992 and known formally as the United Nations Framework Convention on Climate Change (FCCC). Article 2 of the FCCC states that its ultimate objective is to "achieve stabilization of greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic [man-made] interference with the climate system." But the treaty includes no further definition or elaboration of the desired (or "dangerous") level of such greenhouse-gas concentration, nor any specific account of the threats to human health or the environment. In fact, the FCCC doesn't even indicate whether the desired level should be higher or lower than the present one.

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In spite of these very fundamental uncertainties, the Kyoto Protocol, adopted in 1997, insists on lowering emissions in the hope of reaching stabilization at some level, preferably one that is not too high. The basic requirement of the Kyoto Protocol is that industrialized nations (and only industrialized nations) reduce emissions of greenhouse gases to a level five percent below emissions in 1990 by the period 2008-2012. But this requirement does nothing to stabilize the atmospheric concentration of greenhouse gases. At best, Kyoto would merely slow down somewhat the *rate of rise*, which by the year 2020 will be largely determined by emissions from major developing countries like China, India, Brazil, and Mexico—none of which are covered by the accord.

The Kyoto Protocol's main emphasis is on carbon dioxide produced by burning fossil fuels. By contrast, the powerful greenhouse gas methane is barely mentioned—perhaps because its main sources, while human-related, are "natural": rice agriculture and cattle-raising. Furthermore, the Protocol does not mention other factors that affect the climate, such as sulfate aerosols from coal-fired power plants, soot from diesel engines, and smoke from the burning of biomass (mostly in developing countries).

The Kyoto Protocol, therefore, would have practically no impact on global temperatures. Even if punctiliously adhered to, it would reduce the calculated temperature rise by 0.05 degrees Celsius at most—an amount so insignificant it can hardly be measured. When confronted with that little-publicized fact, supporters of the Protocol admit that Kyoto is intended only as a first step, and that greenhouse gases will someday have to be further reduced by between 60 and 80 percent of 1990 emission levels. This fact, too, has not been much publicized by Kyoto's supporters, and with good reason: such drastic reductions would cripple the global economy.

Questionable Science

To understand the flaws of the Kyoto Protocol, it is necessary to look first at the climate science that supposedly provides a rationale for its provisions. Kyoto is not the first attempt to impose worldwide restrictions on anthropogenic emissions. In many ways, it is patterned after the 1987 Montreal Protocol, which limited and eventually eliminated the emission of chlorofluorocarbons (known as CFCs, or "Freons") in order "to save the ozone layer." By 1988, environmental pressure groups were already arguing for similar restrictions on the emission of carbon dioxide "to save the climate."

As in the case of the Montreal Protocol, the groundwork for Kyoto was laid by a series of studies conducted by a U.N.-appointed group, the Intergovernmental Panel on Climate Change (IPCC). Its first report was issued in 1990 and suggested that if the concentration of greenhouse gases were to double, a global warming of between 1.5 and 4.5 degrees Celsius would follow. Those numbers were based

on crude climate models whose validity had never been tested by observations—and even today, there remains no validation for the climate models that are at the heart of most claims of climate catastrophe. The IPCC maintained, however, that the model results were "broadly consistent" with observations. This claim referred to a warming trend that had begun in the late nineteenth century and continued until about 1940. That trend actually had little to do with greenhouse effects but seems to have been simply a natural fluctuation of the climate, a recovery from the preceding "Little Ice Age." Driving this point home, the global climate cooled after 1940 until about 1975—in spite of the copious emission of carbon dioxide and other greenhouse gases in the industrial boom years after World War II. By the 1970s, the persistent cooling trend had become a hot topic, so to speak, for magazines and books that fretted about a coming Ice Age, and the federal government supported studies that calculated the economic disasters expected from a colder climate.

This cooling presented an embarrassment for climate models that could explain only greenhouse warming. In response, the IPCC added a cooling factor to its models of the atmosphere, consisting of tiny aerosol particles produced by the emission of sulfur dioxide from electric power plants. The second IPCC report, published in 1995, invoked the "sulfate-aerosol effect" and produced the memorable but essentially meaningless phrase that "the balance of evidence suggests a discernible human influence on global climate."

But the sulfate aerosol "fix" proved to be in conflict with real-life observations, so it was swept under the rug in the third IPCC report, issued in 2001. It turns out that these supposedly-cooling aerosols are produced mainly in the northern hemisphere, where industrial activity is highest. Therefore, if the models are correct, the northern hemisphere would presumably warm more slowly than the southern hemisphere—that is, the sulfates would shield the northern hemisphere from more sunlight, reduce incoming energy, and thereby offset part of the calculated greenhouse warming. But observations show exactly the opposite. The highest rate of warming in the last 25 years has occurred at northern mid-latitudes.

An even more serious embarrassment to the IPCC claim is the fact that the global atmosphere has not warmed appreciably in the last quarter century. The IPCC climate models very specifically call for the atmosphere to warm faster than the surface as a result of the greenhouse effect. The warming rate is supposed to increase with the altitude up to about five miles. But data from weather satellites and weather balloons show no significant rise in the global mean temperature of the atmosphere, in stark contradiction to the climate models.

Despite the paucity of proof for past climate claims, the third IPCC report says that "new evidence" makes it likely that "most of the warming observed over the last 50 years" comes from the human production of greenhouse gases. This "new evidence" is based on a single analysis of "proxy" data (that is, data that do not come from thermometers but rather from sources like tree rings, ice cores,

corals, and ocean and lake sediments) showing the twentieth century to be the warmest in the past thousand years. Not only does this analysis conflict with other published analyses of proxy data, but it was also exploded in a re-analysis published in 2003, which showed that the IPCC claim was the result of a gross mishandling of the underlying data. If the dispute is settled in favor of the re-analysis—as seems likely—the IPCC claim of a "human influence on global climate" will be severely damaged.

The response of global-warming theorists to these contrary findings has been twofold: One strategy has been to attack and try to discredit both the satellite data and the re-analysis of the proxy data; the other has been simply to ignore any contrary evidence. They make repeated references to the "warming of the last 25 years" but never mention the total lack of warming evidenced in both satellite and balloon observations. To ensure that the disparities do not get publicized, environmental lobbying groups (and their allies in politics and the media) generally refer to the science as "settled." They refer to the "scientific consensus" of the 2,000 or so scientists connected to the IPCC—even though probably no more than 100 of those are true climate specialists; many are actually social scientists and government functionaries; and the list includes some skeptics of global warming who have expressed doubts about the IPCC's conclusions.

Dead on Arrival

The 1992 climate treaty calls for regular meetings of adherents, called "Conference of the Parties" (COP) gatherings. After the 1995 IPCC report claimed that the "balance of evidence" supported a human effect on the climate, the next year's COP in Geneva marked a turning point on the way to Kyoto. The U.S. delegation, headed by Undersecretary of State Tim Wirth, suddenly demanded that the voluntary arrangements to reduce emissions of greenhouse gases be replaced by mandatory "targets and timetables." It is clear that Wirth, a former Senate colleague of Al Gore, was carrying out the vice president's orders. Years earlier, Gore had published his book *Earth in the Balance*, which predicted cataclysmic consequences from greenhouse warming. In the book, he proposed drastic measures to limit emissions, including elimination of the internal-combustion engine.

The Geneva meeting thus laid the foundation for the COP held in Kyoto in 1997. Even before the Protocol was adopted, it became clear that it would include strict numerical targets and tight timetables for reducing emissions in the industrialized world, with pernicious economic consequences for the United States. In response, the Senate preemptively and unanimously passed the Byrd-Hagel Resolution in June 1997, which expressed the body's opposition to any attempt to impose strictures that would exempt developing nations and "result in serious harm to the economy of the United States." (The United States would have had to reduce greenhouse gases to a level 7 percent lower than they were

in 1990—which by 2012 would amount to a cut of roughly 40 percent.) And so, even though the Kyoto Protocol was adopted in December 1997 and the Clinton administration signed onto it in 1998, the White House never submitted it to the Senate for ratification, knowing it would be dead on arrival.

Even without American accession to the Protocol, the COP meetings continued: in Buenos Aires in 1998, in Bonn in 1999, and finally, in The Hague in 2000. These annual two-week conferences came to involve some 180 national delegations, with many smaller committee meetings in between. In addition to these delegations, a permanent bureaucracy had been established, headquartered in Bonn, with offices also in Geneva and Nairobi, where the U.N. Environmental Program (UNEP) is located. Counting all of the scientists, economists, and policy experts who contributed to the IPCC reports, the effort now employed thousands of people, mostly in the U.S. and Europe.

By the summer of 2000, almost all the European countries had ratified the protocol, but the United States, Russia, Japan, Australia, and a number of Eastern European nations had not. Since the Protocol could not go into effect until 55 percent of all industrial nations contributing at least 55 percent of emissions had ratified it, there was great pressure on the United States to do so. All this came to a head in The Hague in November 2000. The U.S. delegation, handpicked by the Clinton-Gore White House, wanted very much to achieve a compromise with the Europeans that might make ratification by the Senate possible. The compromise would involve "emission trading" among nations that faced different costs of compliance, as a means of lowering the overall cost. The EU opposed it, although Europe had granted to itself the option of emission trading among European nations.

This so-called European "bubble" allowed the EU to set specific reduction quotas for each country. Some European countries were even permitted to raise their emissions over the 1990 levels, since they were still in a developing stage. Others, like Germany and Britain, took it upon themselves to take larger cuts, up to 25 percent. While this sounds like a very large reduction in emissions, it must be recognized that the choice of 1990 as the base year made it relatively easy for Germany and Britain to meet these targets. Germany had just completed its reunification and was shutting down the former East Germany's highly inefficient industries. Britain had started to substitute North Sea natural gas for coal in its power plants, which drastically reduced the country's carbon dioxide emissions.

The sessions in The Hague were highly dramatic, and the conference had to be adjourned without an agreement. Had Europe compromised and permitted emission trading, as requested by the U.S., an agreement might have been possible. But western European nations, especially France, wanted to see the U.S. make painful cuts in its use of energy rather than permit the purchase of unused emission permits from Russia. The French had a point: the emission trading

scheme, while it would have allowed the U.S. to sign on, was really a cop-out, since buying unused permits from Russia would mean that overall emissions to the atmosphere would not actually be reduced at all.

Soon after the collapse of the talks in The Hague, George W. Bush was elected president. In the course of his campaign, Bush had expressed his opposition to the Kyoto Protocol, on basically the same grounds as the Senate resolution. But he had also made a commitment to reduce emissions of carbon dioxide—a promise that appeared quite unexpectedly in one of his campaign speeches. Instead of backing away from the statement, the Bush administration proceeded in a kind of schizophrenic manner. On the one hand, it opposed the Kyoto Protocol and thereby essentially declared that global warming was not a problem. On the other hand, it proceeded to act as if carbon dioxide did present a problem. For example, the White House announced a plan to reduce the ratio of carbon dioxide to GNP over time. Even though the plan would have required increased energy efficiencies, the proposal would still have allowed *total* carbon dioxide emissions to increase, so environmental activists opposed it. To placate them, the White House instituted energy policies that made it appear as if carbon dioxide and global warming were indeed grave threats. Among the worst of these policies is a program to sequester carbon dioxide emitted by power plants by capturing it and disposing of it in underground geologic formations or in the ocean. Sequestration is energy-consuming and therefore very costly. It is also entirely unnecessary: Carbon dioxide is not a pollutant; it is not even classified as a "criteria pollutant" by the Clean Air Act, and not subject to control by the Environmental Protection Agency.

The 2001 COP meeting in Morocco finally resulted in an emission-trading compromise that persuaded Japan to ratify the Kyoto Protocol. The compromise also seemed at first to appease Russia. With large amounts of unused emission permits in hand because of its economic collapse during the 1990s, Russia stood to gain billions of dollars as it sold "hot air" to Western nations. But when the United States, under Bush, refused to ratify Kyoto, hot air suddenly became a lot less valuable. In September 2003, Moscow suddenly decided that the Kyoto Protocol was "scientifically flawed," and that Russia would likely not ratify it.

Kyoto is Dead, Long Live Kyoto

For a short while, there was talk among the Europeans that they might simply pursue Kyoto unilaterally—even without the United States and Russia. They are still stewing over it, with some public disagreement between the EU commissioners for energy and for the environment. There were similar calls in Washington to institute a Kyoto-like regime unilaterally. In the U.S. Senate, John McCain and Joe Lieberman introduced a bill to do just that: a unilateral reduction of carbon dioxide emissions over time, albeit with the possibility of emission trading and credits for carbon dioxide "sinks," like planting trees. The

"McLieberman bill" (as it came to be called) failed to pass in November 2003, with senators voting mainly along party lines.

What, then, is the future of the actual Kyoto Protocol? Without Russian participation, it is unlikely that the 55 percent threshold could be reached. The Kyoto Protocol, it seems, is dead.

But the *concept* of Kyoto may not yet be dead. Over the last twelve years, since Rio de Janeiro, an impressive set of stakeholders has been built up: international bureaucrats and national bureaucracies; industries that build, sell, and operate wind energy and solar energy technologies; and a multitude of non-governmental organizations that make their living from climate scares. In addition, there is the $4 billion a year spent by the U.S. federal government alone on climate studies and on research related to the mitigation of global warming. These stakeholders do not ultimately care about the details of the Kyoto Protocol; the important thing to them is the process, which must be kept alive.

It remains possible that a "son of Kyoto" treaty will someday follow in the footsteps of the now-defunct protocol. It would probably sound tougher than the original, perhaps requiring a 25 percent reduction with respect to 1990 emission levels, rather than 5 percent. But instead of carrying a target date of 2008-2012, the next-generation Kyoto might hold off until perhaps 2040-2050—well beyond the terms of office of current politicians. While the new Kyoto would at least pay lip service to the obligations of developing nations, it would probably not require them to reduce emissions. Instead, the new Kyoto would probably be shaped by the notion of "contraction and convergence," now popular in European environmental circles. The concept is that every human being on this planet has the right to emit the same amount of carbon dioxide; therefore, citizens of developing nations would be given the same quota for emissions as citizens in industrialized nations. The latter will have the privilege of buying unused emission rights from those who are not using their allocated quota. In other words, the world would see a giant income transfer from developed to developing nations.

But as skeptics have pointed out, such a system would transfer money "from the poor in rich countries to the rich in poor countries." It could create perverse incentives that encourage kleptocratic dictators to manipulate their population policies in order to enhance their take. And if these plans were to move ahead, even hard-headed industrial concerns would likely find a way of boosting profits in the short-term—or avoiding government-imposed regulations and penalties—by playing along and joining the bandwagon.

Rational Environmentalism

The first and most important step toward a more sober environmental policy has to involve the underlying science. The assumptions of the global warming models must be publicly, repeatedly, and systematically critiqued, and when they

do not stand up to scrutiny, these assumptions and policies must be rejected by the United States government outright.

The second step will need to be based in economics. Economists must offer convincing demonstrations of what is already apparent from the data: that modest warming correlates with increased GNP, higher average income, and enhanced living standards across the globe; and that carbon dioxide, rather than being a pollutant, benefits the growth of agricultural crops and forests. Economists must also demonstrate that control of carbon dioxide imposes huge economic penalties, particularly on lower-income groups. This is a matter of making the facts known.

Finally, we need to take political steps to undo the mischief of the past decade and prevent future mischief of the same sort. We should remove the U.S. signature from the Kyoto Protocol, since it implies an intention to ratify. And we should exercise the option offered in Article 25 of the FCCC and withdraw from the global climate treaty. The reason for withdrawing is clear: the huge amounts of money now devoted to all aspects of global warming perversely build up constituencies that have an interest in sustaining the distortions of fact, and in proceeding along a path that makes no sense.

Some years from now a future generation, having survived real threats—like international terrorism or weapons of mass destruction—may look back on this episode in human history as a passing aberration that gripped much of the Western world. By then, fossil fuels may be mostly depleted, the cost of energy may be held in bounds only through massive investments in nuclear power or yet unforeseen technologies, and the chief worry may be that of a coming ice age still looming as our mild interglacial period draws to a close.