A Current View of the Kyoto Climate Change Treaty

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Introduction

We are feeling the effects of the ancient Chinese curse, “May you live in interesting times.” In environmental policy circles, one of the most interesting issues is global climate change (also known as “global warming”). Despite efforts by many environmentalists and policymakers to close off the debate, the issues surrounding climate change are far from settled, and the impacts of climate change on life as we know it are even less certain.

Projections of the costs of policy prescriptions contained in the 1997 Kyoto Global Climate Change treaty are wide-ranging, depending upon which mechanisms will be employed to reach the treaty’s targets. Nonetheless, just the large reductions in CO$_2$ emissions required to meet Kyoto’s goal for the United States by 2010—equivalent to more than a 30 percent reduction from the anticipated level of emissions—should cause policymakers to look before leaping.

Economic Models and the Cost of Kyoto

Estimates of the annual real GDP losses from Kyoto range from the administration’s estimate of $1 billion annually over five years to the Department of Energy’s estimate of $378 billion annually.

Some economic studies predict that implementation of Kyoto would depress wage growth by an
average of 5 to 10 percent and increase domestic energy costs by as much as 86 percent. According to a study by the Wharton Economic Forecasting Associates, implementation of Kyoto would decrease the income of the average American family by $2,700 annually. A study by Stephen Brown, senior economist at the Federal Reserve Bank of Dallas, projects that, in order to meet the emissions cuts required by the Kyoto agreement, U.S. domestic consumption of fossil fuels would need to be reduced by 25 percent—the equivalent of stopping all highway, rail, air, and sea traffic permanently. Implementation of the Kyoto Treaty could increase U.S. farm production costs by $10-20 billion annually and depress farm income annually by 24 to 48 percent. This would result in higher food prices, fewer agricultural exports, and the loss of many small farms.

**Policy Options**

**Emissions trading**

The federal government has several ways of addressing the cuts in emissions required by the Kyoto protocol. Emissions trading is often hailed as the market solution to greenhouse gas releases. Under this regime a country or firm could meet its emissions target by reducing pollution or by purchasing emissions credits from another nation or firm that was able to achieve excess reductions. Both the administration and groups such as Resources for the Future support emissions trading as a way to achieve Kyoto’s goals more efficiently.

However, there are many assumptions in the emissions-trading model. First, the model assumes that countries like Russia, India, Mexico, Brazil, or China will be willing to sell credits to the United States. Russia has announced that it will not be a seller of emissions credits in the early stages of the Kyoto regime. According to one study, Russia is not expected to sell emissions credits until after 2013. Given the political and financial instability of these nations, there is no
guarantee that they will be willing to make agreements or be able to follow through on them. Nor does it seem wise policy to make the United States an advocate of reduced economic growth in these developing (or floundering) economies. Further, the emissions-trading regime would be global and not subject to U.S. control, making enforcement of agreements very problematic.

The emissions-trading scheme assumes that developing states will trade off their economic growth and future for the short-term gains of selling their emissions rights. While western technology may be able to help improve energy efficiency, energy consumption is a major link to economic development.

Even in the information age, developing nations must continue to consume more fossil fuels if they wish to increase economic output. Developing nations will be part of the estimated 1 billion Internet users of the future. According to a recent study, for every 2,000 kilobytes of data moving on the Internet, the energy from a pound of coal is needed. As the Internet expands in the future and other non-information-based energy needs increase, countries are not likely to be willing to sacrifice economic growth for the uncertain science of Kyoto.

If developing states were to sell off their emissions credits early in the game, they would be forced to buy future credits in a higher-priced, more volatile market. By selling off these rights short term, these states sacrifice their long-term economic growth by curtailing their use of fossil fuels. Some assert that developing states will resist this new “carbon colonialism.”

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The proposed trading regime also amounts to a massive wealth transfer, or private foreign aid, taxing U.S. firms and consumers while rewarding our less-developed trading partners.

International carbon trading is often compared to domestic trading of sulfur dioxide (SO₂) credits established in the 1990 Clean Air Act amendments. However, this simple-minded comparison has been condemned by SO₂ trader John Henry as “a scam that is going to give emissions trading a bad name.” The lack of global monitoring of the millions of sources and the absence of a global regulatory regime will lead to fraud, Henry predicts. Despite these faults, the World Bank and the Environmental Defense Fund are among those poised to jump into the emissions-trading market.

Imposing a carbon tax solely on the industrialized world would still result in a net increase in global greenhouse gas emissions.

A harmonized carbon tax

Another alternative suggested to reduce CO₂ emissions is a harmonized carbon tax. William Nordhaus, a Yale University economist, prefers carbon taxes to emissions trading. He asserts that carbon taxes would prevent wild fluctuations in the price of emissions allowances. Predicted price volatility stems from a belief that the relatively fixed supply of allowances will result in dramatic price increases when the demand for allowances increases.

Over 2,000 economists, including six Nobel laureates, support the carbon tax model. However, that impressive number constitutes less than 10 percent of the full membership of the American Economics Association.

Imposing a carbon tax solely on the industrialized world would still result in a net increase in
global greenhouse gas emissions. A carbon tax imposed on industrialized nations likely would result in a decline in their production of carbon-emitting goods. Reduced demand in advanced countries could lead to falling oil prices. In turn, lower oil prices would encourage poorer, developing states using less fuel-efficient technologies to increase their use of fossil fuels. This “carbon leakage” would then move employment in energy-intensive industries offshore, costing American jobs while simultaneously increasing CO₂ emissions—a lose-lose proposition.¹⁰

DRI/McGraw Hill produced another study critical of the carbon tax. Economist Lawrence Horowitz asserts that a carbon tax of $200 per metric ton is required to ensure that U.S. CO₂ emissions stabilize below the Kyoto target level. This tax would depress the U.S. GDP trend growth by 4.2 percent—some $350 billion a year in reduced production. This number reflects a loss of 1.1 million jobs annually over a 15-year period. A $100 per ton tax leaves U.S. emissions well above the target level by 2010 and still would cost $203 billion in lost GDP—an estimated 520,000 jobs annually.¹¹

**Alternative tax schemes**

Other plans to control production inputs or consumption are less cost-effective. These plans single out some paths for control at the expense of others, eliminating the level playing field to achieve the lowest costs. This option is inapplicable to CO₂ because there is no technology for large-scale scrubbing and storage of CO₂ emissions. Additionally, the political machinations involved with singling out one industry are ripe for abuse.¹²

Other nations, notably the Nordic countries, have experimented with carbon taxes, with mixed results. Energy-intensive industries are exempted from these taxes, and energy consumption by exempt industries has risen more quickly than energy consumption by other industries. In Germany, energy users face a surcharge on their electric bills to subsidize research on wind power. Consumers also face a surcharge to subsidize the coal industry.
Another policy option being considered is the Clean Development Mechanism (CDM). Under this plan, which includes carbon sequestration, developed nations can meet part of their emissions-reduction quotas by transferring more energy-efficient technology to the developing world. Increasing investment by developed nations in the developing world also may reduce emissions. States embracing an open trade and environment policy will become more economically viable. Studies by Alan Krueger and Gene Grossman for the National Bureau of Economic Research demonstrate an improvement in a nation’s environmental quality when annual per capita income reaches $8,000. Of course, simply increasing trade and investment opportunities also would promote technology transfers.

A more market-based solution would be to reform tax policies to encourage reduction of CO$_2$ emissions. Under U.S. tax law, capital formation—including investments that increase energy efficiency and reduce pollution—is treated less favorably than elsewhere in the industrialized world.

This was not always the case. Prior to the enactment of the Tax Reform Act of 1986, the United States had one of the most favorable capital-cost recovery systems in the world. The loss of the investment tax credit and the increase in depreciation periods for capital equipment under the 1986 Tax Reform Act raised the effective tax rates on new investment in pollution control and energy-efficient equipment. Under this regime, more energy-efficient equipment will not be adopted as rapidly as it would be under a more favorable tax law. Tax incentives—including partial expensing, accelerated depreciation, tax-exempt bond financing or larger loss carrybacks—would reduce the cost of capital for many firms and may be the best and most painless way of reducing emissions of CO$_2$.

But new technology still has to pass a market test. Alternative energy sources—wind, solar, and geothermal power—are often hailed as solutions to the greenhouse gas buildup. However, each of these
alternatives is accompanied by serious shortcomings. Some analysts estimate that alternative energy sources are on average twice as expensive to use as fossil fuels. Others object that solar power causes overdevelopment of desert regions, wind power kills birds, water power destroys river habitats, biomass power produces air emissions, and geothermal power generates toxic discharges. Even if these other concerns were not present, alternative energy sources (except for politically incorrect nuclear power) cannot satisfy domestic energy needs.

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Currently, solar and wind power account for less than 3 percent of all electric power generated. The technology needed to reach the requirements of the Kyoto timetable simply is not available. According to MIT professor Elisabeth Drake, “the technologies that exist today will not help us much in meeting the Kyoto goals. Taking the steps necessary with present technology is likely to have severe impacts on our national economy.”

Regulatory reform could reduce emissions. Current Clean Air Act regulations burden and delay the development of new cleaner facilities and application of technological innovations. Older facilities are not replaced as rapidly as they could be due to the numerous hurdles of the permitting process. A report by the Environmental Law Institute concluded that existing permitting procedures “discourage innovation by making the approval process for new technologies lengthier, more cumbersome, and less certain than for conventional approaches.”
Climate Change Legislation

Several new legislative initiatives have been offered to address climate change issues. The Credit for Voluntary Reductions Act (S. 547), proposed by Senators John Chafee (R-R.I.) and Joseph Lieberman (D-Conn.), would authorize the President to enter into agreements to provide regulatory credit for voluntary early action to reduce CO₂ emissions. Firms that lowered emissions prior to the ratification of the Kyoto Treaty and before 2008 could receive credit for these reductions. The Chafee-Lieberman bill poses significant implementation problems. A bureaucracy needs to be established to measure and validate the host of market actions taking place in the $500 billion annual domestic energy market.

Additionally, the bill sets 1996–98 baselines for counting credits. This would reward firms that were well-established during this period. This plan is also subject to political manipulation, especially for determining which projects would qualify for early credit. Less politically powerful industries might find themselves shut out of the process.

Furthermore, any program monitored by federal regulators with permitting authority cannot truly be called voluntary. Firms may feel coerced to participate in the program to avoid trouble in other regulated realms.

The biggest flaw with S.547 is that it will divide the business community into winners and losers and create a Kyoto constituency in the U.S. economy. Unless the Kyoto Protocol is ratified by the Senate, these credits have no value. Firms hoping to cash in on the program might well join the pro-Kyoto lobby in order to obtain short-term economic gains from the early credit program.

Winners and losers will be established in the following way. Assume a domestic market where four firms generate combined emissions of 1,000 metric tons annually, divided equally (250 metric tons each). Now assume that, pursuant to Kyoto, the U.S. government requires that emissions be reduced to 800 metric tons a year and that each firm is allowed 200 metric tons of emissions.
But what if the administration then sets 200 metric tons of emissions aside for early voluntary reductions? The four firms then must share 600 metric tons of emissions—150 metric tons each. Suppose two of the four firms are poised to change their operations to each claim half of the 200 metric tons of emissions set aside. These two fortunate firms would have 250 emissions credits while the other firms would each have 150 emissions credits. Each smaller firm would face the prospect of either buying credits from the fortunate firms, reducing their emissions using high-cost technology, or reducing their output.

Both the Murkowski and Craig bills recognize that the Kyoto Protocol is going nowhere. While they attempt to bring some rational discussion to the process, they unfortunately still engage in market-distorting subsidies...

The Chafee-Lieberman bill still fails to satisfy projected energy needs. It ignores the fact that even in the Information Age, fossil fuels supply two-thirds of energy requirements for electricity production. Coal use is expected to continue to grow in order to meet economic needs.

The proposed Energy and Climate Policy Act of 1999 (S.882), introduced by Sen. Frank Murkowski (R-Alaska), is designed to shift the focus of the debate from short-term emission reduction targets to a long-term, technology-based global effort. The bill would establish a program for research and development of $200 million per year for the next 10 years. Private sector contributions would amount to a minimum of 20 percent for R&D and 50 percent of commercialization expenses. Funding would go to energy-efficient technologies, including advanced nuclear power, that avoid or reduce emissions of greenhouse gases or that remove and sequester greenhouse gases.
The bill also calls for establishing an Office of Global Climate Change to “serve as a focal point of coordinating for the Secretary of Energy and Congress all Department of Energy issues and policies on climate change and related matters.” The bill gives credits to large and small firms utilizing carbon trapping technologies.

Proposed legislation by Sen. Larry Craig (R-Idaho) would offer some promising compromises for addressing the legal and economic issues of climate change. The Energy Policy Act Amendments of 1999 correctly recognize that climate change is a concern, not a crisis. The bill includes numerous incentive and tax credit programs designed to make the process truly voluntary, unlike the sham voluntary label attached to the Chafee-Lieberman bill.

Most importantly, the Craig bill would establish an Interagency Task Force on Climate Issues. This task force would be chaired by the Secretary of Energy and would include the Departments of Energy, State, Agriculture, Commerce, and Housing and Urban Development. EPA is excluded from the task force, in a clear signal that energy policy is not within its purview. However, EPA would submit a biannual report to Congress and the President on “all activities undertaken by the agency for the direct or indirect purpose of reducing greenhouse gas emissions.”

The task force would make determinations of economic implications of plausible mechanisms designed to avoid, reduce, or adapt to global climate change. The Office of the United States Trade Representative would also report to Congress on comparative mechanisms and identify and “evaluate regulatory barriers to more rapid development of technology for the reduction of greenhouse gas emissions.”

Both the Murkowski and Craig bills recognize that the Kyoto Protocol is going nowhere. While they attempt to bring some rational discussion to the process, they unfortunately still engage in market-distorting subsidies, including funding for R&D, the Export-Import Bank, and the Overseas Private Investment Corporation.
Kyoto Implementation via the Back Door

Despite the flaws and congressional displeasure with the Kyoto agreement, the administration is attempting to drive the Kyoto agenda via the back door. The administration has long indicated its desire to implement its own global warming policy, with or without congressional approval. At the time of the Kyoto conference, Vice President Gore stated, “Whether there is an agreement in Kyoto or not, the U.S. is prepared, under President Clinton’s leadership, to unilaterally take steps we believe should be taken to deal with the problem of global warming.”

The EPA is spearheading these efforts.

In 1998, EPA took steps to cap carbon emissions as part of the administration’s electric utility restructuring plan. Rep. David McIntosh (R-Ind.) stated that an internal EPA memorandum characterizes this plan as “a concrete step to move forward domestically on global warming while continuing to work for progress internationally in follow-up to Kyoto.”

EPA also has testified that it believes it has pre-existing authority to regulate CO$_2$ as a hazardous air pollutant, the same way it regulates sulfur dioxide, nitrogen oxide, and mercury under the Clean Air Act. Such an interpretation would place domestic energy policy firmly under the control of the EPA.

The EPA budget reflects the agency’s intent to spearhead global climate policy. Its request includes $200 million for The Clean Air Partnership Fund. According to EPA Administrator Carol Browner: “The program will provide new resources for states, cities and tribes to reduce soot, smog, air toxics and greenhouse gases that contribute to climate change.”
This new program of incentives can be construed as a recruitment and coercion program designed to entice states and cities to pressure businesses to lower emissions. Apparently this cooptation program is working. At an EPA conference on climate change, the mayor of Buffalo, New York, a city not normally associated with detrimental effects of global warming, predicted that “global warming could have negative impacts on many of our regions’ strengths, assets, and resources.”

The Department of Energy also is active in the Kyoto backdoor game. In the FY 1999 budget, the Energy Department received $272 million for spending on new energy-efficiency and renewable-energy programs. Currently, Energy Secretary Bill Richardson is seeking a $717 million budget increase. Development of new energy-efficiency and renewable-energy programs are targets for much of the increase. Designed to develop techniques to reduce greenhouse gas emissions, these programs push the U.S. toward the Kyoto Protocol’s goals without Senate ratification of the treaty.

Of the policy options envisioned by the White House...only global emissions trading offers a theoretical prospect of reducing the costs of complying with Kyoto to acceptable levels.

Since October 1997, the administration has been creeping towards Kyoto. The EPA targeted $6.3 billion over a five-year period to reduce greenhouse gas emissions by providing incentives to consumers and businesses. In the FY 1999 budget, $3.6 billion in tax credits over five years, involving agencies such as EPA and the Department of Energy, is directed towards Kyoto compliance goals. This budget also features $2.7 billion in “new research and development investments to ensure that innovative greenhouse gas-reducing products” are produced.
Such market-distorting subsidies are designed to promote the agenda of the unratified treaty by shifting market behavior. An estimated $5 million is targeted for advanced nuclear power.22

Last fall, Congress mandated that the administration furnish, along with the proposed FY 2000 budget submission, “detailed information on all Federal agency funding requests for climate change programs by line item (appropriation account).” Congress was also to receive performance measures by the administration, with an explanation of how success would be assessed. This would include an estimate of CO₂ emissions reductions attributable to these federally funded programs.

Although the administration was nearly three months late in reporting to Congress, the reports were largely unresponsive. According to Rep. McIntosh: “The information did not include performance measures for most of the 44 appropriation accounts scattered across 14 federal agencies.” The administration’s reports “only included nine actual performance measures and only one of the nine could be associated with a specific appropriation account.”23

The Department of Energy Information Administration concluded that it was “unable to link [Climate Change Technology Initiative] research and development expenditures directly to program results or to separate the impacts of incremental funding requested for FY 2000 from ongoing program expenditures.”24

**Conclusion**

The Kyoto agreement affects only industrialized nations. The industrializing countries are unwilling to trade away improved economic conditions for their citizens in order to address the unproven effects of human-induced global climate change.

Of the policy options envisioned by the White House to reduce greenhouse gas emissions, only global emissions trading offers a theoretical prospect of reducing the costs of complying with Kyoto to acceptable levels. But the Europeans don’t support
this approach because they believe it allows the U.S. economy to continue its dominance—gain without pain. The practicalities (or impracticalities) of global emissions trading consign it to the realm of the purely hypothetical, rather than a real solution.

In the face of this dilemma—wishing to display concern for climate change impacts, but having no viable solutions to offer—the administration and Congress are searching for symbolic responses. The administration is focused on subsidies for technologies that enhance energy efficiency, while Congress is toying with credits for early CO$_2$ emissions reductions.

Depression-era cowboy comedian Will Rogers said: “Never blame a legislative body for not doing anything. When they don’t do anything, they don’t hurt anybody. It’s when they do something that they become dangerous.” Until global climate science is better understood, this is a good time for policymakers to avoid the temptation to do something.
Notes


21. Testimony of Kathleen McGinty, Chair, Counsel on Environmental Quality, before the House Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs, October 9, 1998.


24. Ibid.
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