U.S. Climate Change Efforts: An International Perspective

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Most readers of *Virginia Lawyer* are familiar with state and federal actions in the United States to address climate change. However, the U.S. media often do not portray what the rest of the world is doing, how the U.S. is perceived on this issue, and how U.S. efforts compare to others'. This article attempts to place current and future U.S. climate change efforts in a global context.

How U.S. Climate Policy Measures Up

The U.S. government has taken a strictly voluntary approach on national climate policy. While the U.S. was a key architect of the Kyoto Protocol in 1997 and signed it in 1998, the treaty was never submitted to the Senate for the required two-thirds ratification vote.[1] Shortly after President George W. Bush took office in 2001, he announced he would not be pursuing ratification and would not be adopting mandatory greenhouse gas (GHG) emissions controls, despite campaign promises to the contrary.[2] As of September 7, 2008, 181 nations have ratified the Kyoto Protocol. It entered into force in February 2005. The U.S. is the only industrialized country that has not ratified the treaty. The only developing countries that have not ratified are Afghanistan, Brunei, Chad, San Marino, Tajikistan, Timor-Leste, Turkey, and Zimbabwe.[3]

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The U.S. was the first country to adopt emissions trading on a national scale. The 1990 Clean Air Act Amendments departed from traditional environmental command-and-control regulation to adopt a cap-and-trade system to control sulfur dioxide emissions.[4] The success of this program led to the U.S. insisting, against vehement European opposition, on including emissions trading in the Kyoto Protocol in 1997. Given this history, it is ironic that the U.S. is one of the only industrialized countries in the world that lacks an active or incipient emissions trading program for GHG emissions and that Europe has since embraced the policy. The European Union adopted its Emissions Trading Scheme (EU ETS) in 2003 — effective from January 1, 2005[5] — and now sends its government experts to the United States to brief federal and state policymakers on how it is done.[6]

Until recently, the U.S. could count Australia as an ally in its approach to climate change. However, with a recent change of government, Australia may rapidly implement a domestic emissions trading system to comply with its Kyoto obligations. Canada has been a party to the Kyoto Protocol since late 2002, but has not adopted a domestic cap-and-trade system to comply. Several Canadian provinces have joined with U.S. states to endorse mandatory cap-and-trade for GHGs within state and provincial borders, prior to mandatory federal action. Japan, despite having hosted the Kyoto negotiations, has also been slow to adopt a mandatory emissions trading program, though in recent weeks signals have suggested this may be changing.[7]

While the Kyoto Protocol and national emissions trading programs enacted to meet Kyoto targets are the operating standard elsewhere, U.S. federal climate policy in contrast consists of a variety of voluntary and technology-based approaches. The Bush administration has advanced several initiatives that aim to foster the creation, deployment, and sharing of technologies that will reduce GHG emissions. A cornerstone of this effort is the Asia-Pacific Partnership on Clean Development and Climate.[8] More recently, the president announced a commitment to "stop the growth in U.S. greenhouse gas emissions by 2025."[9] A similar goal to reduce the GHG emissions intensity of the U.S. economy by 18 percent between 2002 and 2012 was announced in February 2002.[10] Reducing the intensity of GHG emissions reduces the rate at which emissions grow. This differs from the approach taken under the Kyoto Protocol, which would result in an absolute reduction in emissions.

Divergent Philosophies on Climate Policy

The U.S. government has said it will not adopt mandatory caps on greenhouse gas emissions unless all major emitters are required to do so. Other industrialized countries have taken the view that this should not be a prerequisite for domestic action for three reasons: the trajectory of global temperature increases is severe and rapid enough to warrant taking action immediately; industrialized countries caused the vast majority of the build-up of long-lived gases in the atmosphere and thus should remedy the problem; and developing countries are poorly equipped both economically and technologically to deal with climate change on the same scale as developed economies. Developing countries will bear the effects of climate change (particularly sea-level rise) on a much greater scale than will most industrialized countries.

While the Bush administration approach has staunch supporters domestically, it has also met with criticism from U.S. states — including those in the northeast and the west — that have moved forward to adopt mandatory caps on greenhouse gas emissions within their borders,[11] and from a number of foreign countries.

Europe has always taken a slightly different approach to environmental policy. In particular, it has espoused the "precautionary principle," which states that even where the science has not solidified, it is appropriate and justifiable for the government to regulate as a precaution.[12] This is contrary to the usual approach to environmental law in the U.S.

The Europeans approach the climate issue very differently from the United States, where the debate focuses on how to address climate change without negatively impacting the economy. Economic growth and health are always given top billing and policymakers are loath to act against this conventional wisdom. Cost-benefit analysis is integral to any U.S. policy decision.

In Europe, while there is discussion of how industry and consumers may be affected by environmental measures, the emphasis seems to be that environmental measures — including caps on GHG emissions — should be undertaken even if the economy suffers. While some in industry may vociferously oppose this, the public seems willing to sacrifice, and policymakers do not seem to give as much weight to industry and commercial interests as is given in the United States.

While climate change policy rarely ranks among the top five U.S. policy priorities — among either the public or leading politicians — it is often ranked first or second in importance in Europe. As a result, there is frustration among European leaders and the public with the approach of the United States to climate change. Most countries in Europe take their Kyoto targets very seriously and most will likely meet them. Several, including Germany and the United Kingdom — the two largest emitters in Europe — have announced unilateral goals that exceed these targets.

Future U.S. Action Imminent?

There is a good chance that the next U.S. administration will support and sign into law a national climate policy that includes mandatory controls on GHG emissions. Several bills in Congress would cap GHG emissions across the U.S. economy. Multiple litigation tracks against both government and major private sector emitters, public opinion, and state action all ensure that federal action will be needed if only to supersede and prevent an ad hoc approach. All agree that fifty state climate policies are not advisable.

While many emitters are steadfastly opposed to any type of mandatory controls on GHG emissions, most acknowledge that a carbon-constrained future is likely. Some U.S. companies have announced they are in favor of the Congress and president imposing a mandatory cap-and-trade system.[13] These companies would likely face increased expenses, but they cite three reasons for their support of such a law. First, many feel that the country has a moral duty to limit its contribution to climate change, because the United States is wealthy and it has done more than any other country to contribute to the problem. Second, they prefer the certainty of knowing what long-term obligations they may face by reducing emissions. Third, the worst-case scenario for a large company is to be forced to comply with differing regulations on GHG emissions. As long as the federal government does not act, states will continue to have varying targets, measures, and penalties, creating an unworkable patchwork system.

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What is happening on the multilateral stage? As a party to the United Nations Framework Convention on Climate Change, the U.S. partici-

pates in international meetings on climate change, but avoids taking part in discussions regarding mandatory caps on GHG emissions via the Kyoto Protocol. The U.S. does not support a mandatory program unless all major emitters — including China, India, and Brazil — are included in the program.

While nations continue to discuss what comes after 2012 — when the first commitment period of the Kyoto Protocol ends — a sizable, multibillion-dollar, near-global emissions market exists. Physical allowances and credits that represent actual GHG emissions and emission reductions trade on a large scale across borders every day. While only industrialized countries have implemented emissions trading programs, these programs import credits that have been generated by reducing GHG emissions in developing countries, thus involving a large number of developing countries.

Why Emissions Trading Will Likely Prevail over Other Measures

Experience with the U.S. sulfur dioxide trading program has shown that well-designed emissions trading can be a very effective means to achieve reductions in emissions at costs much lower than traditional command-and-control methods.[14] Title IV of the 1990 Clean Air Act Amendments introduced emissions trading on the first national scale globally. It set a permanent, declining cap on sulfur dioxide emissions from power plants. A company is thus incentivized to reduce emissions so that it can sell its reductions for a profit, or alternatively, to avoid having to purchase additional allowances. Instead of command and control, which dictates that each source must reduce environmental impact by a certain amount over a certain time, the program allows companies the flexibility to determine how they will comply. They may choose to retrofit their plant by installing scrubbers, to switch to cleaner fuels, to become more efficient, or to purchase allowances from others who are able to make reductions more cheaply. If a policy must be adopted, most companies prefer emissions trading over a carbon tax, since trading would provide them with greater flexibility and potentially lower costs.

Emissions trading works in part because it creates an entirely new asset class and cottage industry focused on maximizing revenues from this new asset class. This industry comprises new financial products, experts on projects that reduce emissions, policy experts, verifiers, auditors, carbon traders, climate change lawyers, and consultants — few of which existed prior to the creation of GHG emissions trading. All of this activity is initiated by the private sector seeking the cheapest, most efficient ways to create emission reductions. Similarly, the liability side of the equation has focused board rooms on the issue. Once the marginal cost of abatement reaches a certain level, decisions about fuel switching and implementing new technologies become common-sensical.

Lessons Learned from Other Countries

Assuming the U.S. decides to pursue an emissions trading system over a carbon tax or command-and-control measures, it is well-advised to take a close look at how the other systems have fared over the last four years.[15] As debates began in earnest this spring about the shape of possible U.S. federal climate legislation, many carbon market participants wondered why Washington seemed to be ignoring the only existing large-scale example of greenhouse gas emissions trading globally — the EU's Emissions Trading Scheme (EU ETS). Capitol Hill seemed to disregard the lessons that the Europeans learned in three years of active trading.

Participants in the EU ETS have been actively trading emissions allowances and credits for four years. The program went into effect on January 1, 2005, and is already into its second phase. While the program experienced a famously bumpy trial phase due to an over-allocation of allowances, the second phase is running as expected and is arguably beginning to produce reductions in emissions and force companies to alter long-term planning and emissions profiles.[16] The following lessons can be gleaned from the EU's experience and may be useful to consider for a future U.S. program:[17]

- **Good emissions data are essential**. The EU ETS's famous price crash can be directly attributed to an over-allocation of allowances, which was in turn due to a lack of accurate baseline data. Market participants should remember, however, that even markets with good data experience wild price fluctuations in their early years.

- **Real scarcity is needed both for market functioning and to achieve environmental objectives.** Once the market received verified emissions data a year into the EU ETS and realized the market was long, prices for allowances dropped from thirty euros to 1 euro cent in about eighteen months. Low allowance prices do not incentivize abatement activities and do not cause emission reductions. Price caps should be considered carefully, as a free market will allow for true supply and demand to operate and will drive private sector innovation. A de facto price cap will be set at the penalty for noncompliance.

- **Start simply and build in flexibility.** The EU ETS started by regulating one gas — carbon dioxide — and only six major emitting sectors. In the U.S. it similarly makes sense to start small, with those sectors that have accurate emissions data or can easily accumulate a year of base line data before the program commences. The program should also have the capacity to adapt as the market gains experience and as scientific, technological, and economic research advances.

- **Establish a single central emissions trading registry.** The EU ETS currently operates with different registries in each of its twenty-seven member states. The registry serves as a place to retire allowances for compliance but also as a platform for trading. While there is merit in having devolved responsibilities for registry functions, having

fifty individual registries in the U.S. would complicate the mechanics of trading and add to transaction costs.

- **Incorporate offset credits.** The EU ETS allows for project-based emission reduction credits to be used to a limited extent to help reduce the costs of compliance. It is cheaper for a regulated entity to purchase credits from a project in a developing country than to abate emissions directly. Offset programs ensure some flexibility in the system, encourage investment and technology transfer to lesser-developed countries, and help to reduce emissions globally.

- **Allow nonregulated entities to trade allowances.** Allowing nonregulated entities to trade will provide liquidity and can smooth out financial risks. Investment banks and trading houses have provided this useful function in the EU ETS by also offering creative financial emissions products such as options and swaps for hedging purposes.

- **Provide harsh penalties for noncompliance.** The first phase of the EU ETS provided for a forty-euro penalty for each allowance not surrendered. The second phase increases this penalty to one hundred euros a ton. Harsh penalties have driven early compliance and drawn boardroom attention.

- **Allow banking of allowances.** Allowing facilities to bank allowances incentivizes early emission reduction activities and overcompliance. Banking has been effective in achieving early reductions under the U.S. Acid Rain Program. It allows corporations greater flexibility in long-term financial planning.

- **Seriously consider the merits of auctioning versus free allocation.** The EU ETS freely allocated more than 95 percent of allowances during its first phase, resulting in windfall profits for a number of firms that passed along the shadow cost of allowances to consumers. This experience has caused many to advocate a minimum amount of auctioning. An auction may be more economically efficient, but there is concern in the U.S. about negative economic impact on both consumers and firms. One way to reduce this impact is to use the proceeds from the auction to compensate both firms and consumers.

- **Longer time horizons enable better financial planning.** The current review of the EU ETS has resulted in a desire for compliance periods longer than five years. The third phase of the EU ETS is likely to last eight years. The basic lesson is that firms need certainty and predictability about the future in order to make informed, long-term investment decisions.

- **Set up the system so it continues indefinitely.** The Kyoto Protocol was negotiated so that each commitment period would have to be negotiated and agreed to separately. As a result, nations have not yet agreed to a second commitment period in the treaty after the first period ends in 2012. The EU ETS default position is the opposite; it will continue indefinitely unless the member states elect to stop it. This provision is acceptable where the program also incorporates sufficient flexibility to adopt amendments easily.

The U.S. position on climate change differs significantly from the rest of the developed world. However, federal policy is likely to change dramatically in the next several years and the U.S. policy makers would be well-advised to carefully consider the lessons of GHG emissions trading learned in other countries. ■

Endnotes:

1 Kyoto Protocol Status of Ratification, available at http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification.pdf (last accessed Sept. 7, 2008).
2 Jehl, Douglas and Andrew C. Revkin, "Bush, in Reversal, Won't Seek Cut in Emissions of Carbon Dioxide," NEW YORK TIMES, Mar. 14, 2001.
3 Kyoto Protocol Status of Ratification, available at http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification.pdf (last accessed Sept. 7, 2008).
4 1990 Amendments to the Clean Air Act, 42 U.S.C. §§ 7401-7671.
5 European Union Emissions Trading Scheme, Council Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the community and amending Council Directive 96/61/EC, 2003 O.J. (L 275) 32, 32-46.
6 *See*, e.g., David Blair, "UK using public opinion to change US climate policy," TELEGRAPH (UK), July 20, 2008, available at http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/07/20/eaukus120.xml (last accessed Sept. 7, 2008).
7 "Japan to start trial carbon trading in October," Reuters, July 29, 2008, available at http://uk.reuters.com/article/oilRpt/idUKT8025920080729?pageNumber=2&virtualBrandChannel=0 (last accessed Sept. 7, 2008).
8 Member nations include Australia, Canada, China, India, Japan, Republic of Korea, and the United States. *See* Asia-Pacific Partnership on Clean Development and Climate, http://www.asiapacificpartnership.org/ (last accessed Sept. 1, 2008). For other measures in the White House's climate policy initiative, see White House Council on Environmental Quality, "Addressing Global Climate Change," http://www.whitehouse.gov/ceq/global-change.html (last accessed Sept. 7, 2008).
9 White House, "Fact Sheet: Taking Additional Action to Confront Climate Change," available at http://www.whitehouse.gov/infocus/environment/ (last accessed Sept. 1, 2008).
10 White House, "Global Climate Change Policy Book," February 2002, available at http://www.whitehouse.gov/news/releases/2002/02/climatechange.html.

11 The states of the northeast United States are implementing the Regional Greenhouse Gas Initiative, which will commence on January 1, 2009, and aims to reduce carbon dioxide emissions from power plants 10 percent below current levels by 2019. Regional Greenhouse Gas Initiative, Memorandum of Understanding, Dec. 20, 2005, available at http://www.rggi.org/docs/mou_12_20_05.pdf (last accessed Sept. 7, 2008). Governor Arnold Schwarzenegger signed into law A.B. 32 which aims to reduce greenhouse gas emissions from all sectors of the economy to 1990 levels by 2020. California Assembly Bill 32, Part 3, signed into law Sept. 27, 2006, available at http://www.climatechange.ca.gov/publications/legislation/ab_32_bill_20060927_chaptered.pdf (last accessed Sept. 7, 2008). California and other western states are pursuing the Western Climate Initiative which would adopt a regional greenhouse gas emissions trading system.

12 European Commission Communication on the Precautionary Principle, Brussels, COM (2000) 1, Feb. 2, 2000; *see also* Maastricht Treaty (draft treaty establishing a constitution for Europe), Article III-233, 2004 O.J. (C 310) 103 ("Union policy on the environment shall ... be based on the precautionary principle and on the principles that preventive action should be taken....").

13 *See*, e.g., the United States Climate Action Partnership, http://www.us-cap.org/ (last accessed Sept. 1, 2008).

14 Chestnut, Lauraine G. and David M. Mills, "A fresh look at the benefits and costs of the U.S. acid rain program," 77 JOURNAL OF ENVIRONMENTAL MANAGEMENT 252, 255 (2005) ("The current estimate of average cost per ton of SO2 is ... less than half the mean of average costs predicted in 1990"), available at http://www.epa.gov/airmarkets/presentations/docs/jemarpbenefitsarticle.pdf (last accessed Sept. 1, 2008); U.S. Environmental Protection Agency, Clean Air Markets Program, Office of Air and Radiation, "EPA Acid Rain Program: 2001 Progress Report," EPA-430-R-02-009, at 12-13, 39, November 2002, available at http://epa.gov/airmarket/progress/docs/2001report.pdf (last accessed Aug. 31, 2008).

15 New Zealand and Australia are also in the process of setting up domestic emissions trading schemes to help them meet their Kyoto targets. These countries have carefully considered international best practices in their design.

16 *See*, e.g., "CEZ announces plans for largest onshore wind farm in Europe," CLIMATE WIRE, Sept. 2, 2008 ("CEZ, the Czech power group that is central Europe's largest company, plans to build a €1.1 billion ($1.62 billion) wind park in Romania in a move to offset emissions from dirtier coal-fired power plants, which make up a majority of the company's energy-generating portfolio.... CEZ wants to boost spending on renewable energy because an EU climate package proposal is expected to drive up fossil fuel costs starting in 2013.... 'Investment in renewables is one of the strategic measures we are taking to respond to the adopted energy-climatic package of the E.U.,' said CEZ Chairman Martin Roman in a statement.").

17 John Deacon, Robert D. Marsh, and Tauna M. Szymanski, "Learning from the EU's Emissions Trading Regime," EXECUTIVE COUNSEL